c 1870-1970

19

TURN PAGES WITH CARE

SOUTH OF THE BORDER

RAILROADS OF
MEXICO
CENTRAL AMERICA
CUBA
WEST INDIES
SOUTH AMERICA

INTRODUCTION

The railroads "South of the Border" are not all that familiar to the North American enthusiast. With the demise of steam in the United States attention was drawn to our southern neighbors where steam power still remained in operation.

Lack of interest could be attributed to 'foreign' equipment and operations. European influence, especially British, was most noticeable but the fact is that the U. S. railroad industry always had an interest in the railroads to the South. Many of these countries did purchase American equipment. Locomotives of Baldwin, Lima, ALCO could be found on numerous roads. Even the 'foreign' engines had a semi North American appearence that was acceptable!

One positive item was that narrow gauge was developed to a high degree of design and operation. Something that was never advanced in North America. This volume may help enlighten the reader to the fasination of the railroads that operated "South of the Border" in the days of steam, and, in some locations still prevails!!

SOUTH AMERICAN TRACK GAUGES

0-600cm	1'11 5/8"
610cm	2'00"
660cm	2'2"
75cm	2'5 1/2"
76cm	2'5 7/8"
762cm	2'6"
914cm	3'00"
1 Meter ..	3'3 3/8"
1-067cm	3'6"
1-435cm	4'8 1/2"
1-60cm	5'3"
1-676cm ...	5'6"

Donated to:
RAILWAY & LOCOMOTIVE HISTORICAL SOCIETY

Portland, Oregon
June 1990

F. Ray McKnight

THE RAILWAY AND LOCOMOTIVE HISTORICAL SOCIETY, INC. 1921

7. What is the extent of Mexico's ailway system?

Nineteen operating railroads in Mexico embrace pproximately 12,150 miles of railway lines, of hich 82 per cent is standard gauge and 18 per nt is narrow gauge. Equipment consists of pproximately 1,340 locomotives; 21,000 freight rs and 1,200 passenger cars. About two-thirds of e railway mileage is state-owned. The state ilways, known as the Ferrocarriles Nacionales de exico (National Railways of Mexico) operate 131 miles of railroad, of which 6,855 miles are andard gauge and 1,276 miles are narrow gauge. 1939 the National Railways of Mexico owned 006 locomotives, 15,954 freight cars and 820 assenger cars.

Other important Mexican railroads are: the 331-mile Southern Pacific Railroad of Mexico, ontrolled by the Southern Pacific Company, with ain line extending from Nogales, Arizona, to uadalajara; the 564-mile United Railroads of ucatan (standard and narrow gauge) centering n the port of Progreso; the 496-mile Mexico orth-Western Railway, with main line extending om Ciudad Juarez, opposite El Paso, Texas, to abalaopa; the 434-mile Mexican Railway (standard and narrow gauge) with main line, partly lectrified, extending from Mexico City to the port f Vera Cruz; and the 332-mile Kansas City, exico and Oriente Railway, with main line extending from Ojinaga, opposite Presidio, Tex., to anchez and from San Pedro to Topolobampo on he Gulf of California.

LIBRARY FRM NOGALES, MEXICO

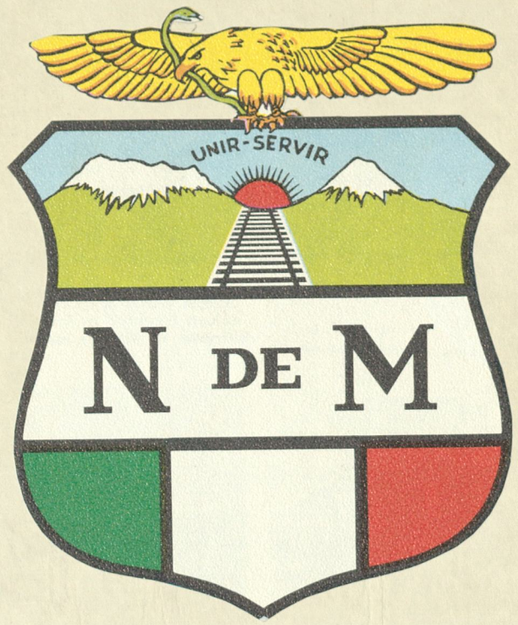
CALIFORNIA STATE RAILROAD MUSEUM FOUNDATION

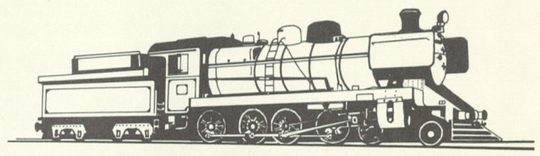
78. What are some of the international aspects of American railway operations?

The 292,000-mile railway system of the United States, Canada and Mexico forms a vast and closely-knit transportation network embracing a large part of the North American Continent. Approximately 99 per cent of these lines are of uniform standard gauge, permitting the uninterrupted movement of trains from one country to another.

At forty-eight points on the Canadian-United States border and at eleven points on the Mexican-United States border, railroads cross from one country to the other or form connections with railroads operating across the border.

Canadian railroads own, control or operate about 7,200 miles of railroad in the United States, while railroads of the United States own, control or operate nearly 1,400 miles of railroad in Canada and about 1,550 miles of railroad in Mexico. Mexican railroads control 162 miles of railroad in the United States.





LATIN DELIGHTS

STEAM CENTERS OF
SOUTH AMERICA

c 1972

● STEAM CENTERS ++++++ STEAM LINES —— OTHER RYS.

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Side Trips to **MEXICO CITY**

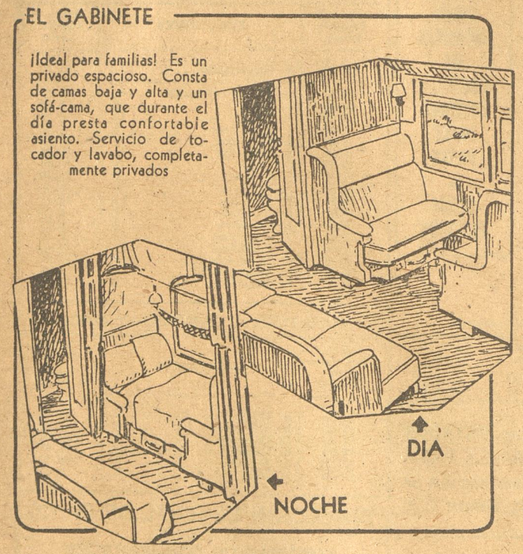
Now as low as

$29.63 from San Antonio, Tex., and return to El Paso, Tex., or vice versa, or **$31.95** from San Antonio, Tex., and return to San Antonio, Tex., via Laredo—berth extra (plus a small tax within U. S. territory). Through passengers can now enjoy a *most economical trip* to **MEXICO CITY** on their way to or from **CALIFORNIA** and the **EAST.** 1939

DESCRIPCION DE LAS LOCALIDADES DE QUE SE COMPONEN LOS CARROS PULLMAN EN SERVICIO DE LOS FERROCARRILES NACIONALES DE MEXICO

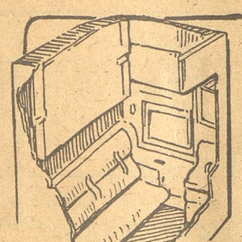
EL GABINETE

¡Ideal para familias! Es un privado espacioso. Consta de camas baja y alta y un sofá-cama, que durante el día presta confortable asiento. Servicio de tocador y lavabo, completamente privados



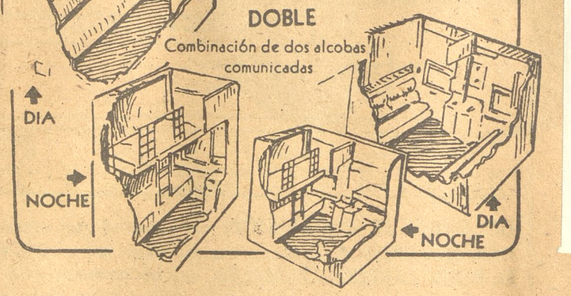
LA ALCOBA

Está formado con dos camas, una baja y una alta; tocador, lavabo, ropero, etc.



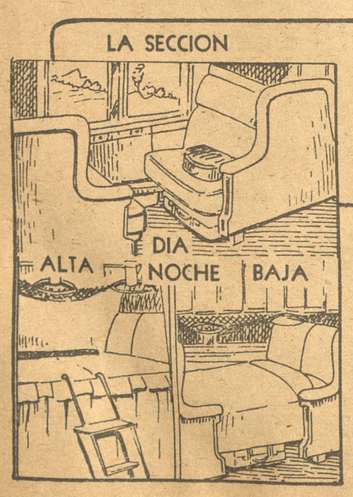
ALCOBA DOBLE

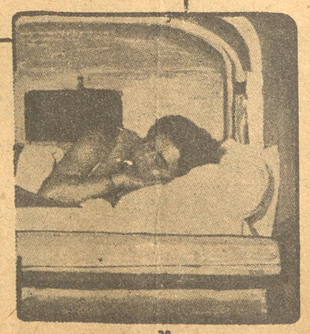
Combinación de dos alcobas comunicadas



LA SECCION

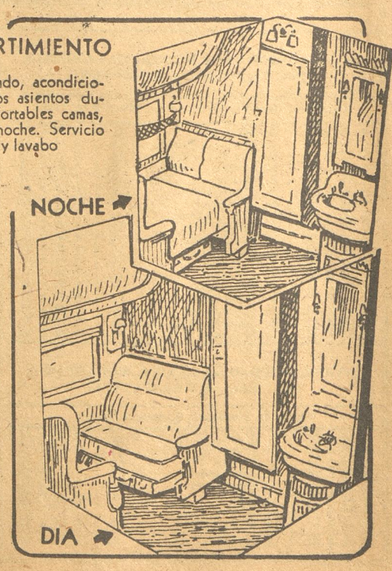
Cama baja y cama alta. De día dos confortables asientos acojinados





EL COMPARTIMIENTO

Es un cuarto privado, acondicionado con cómodos asientos durante el día y confortables camas, baja y alta, en la noche. Servicio de tocador y lavabo



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1025

THE NATIONAL LINES OF MEXICO

"MEXICO'S GREATEST RAILWAY SYSTEM." 1905

2 Fast Trains Daily 2

BETWEEN

ST. LOUIS AND MEXICO CITY

VIA "THE LAREDO ROUTE"

Iron Mountain, Texas & Pacific, International & Great Northern and National Railroad of Mexico

595 MILES SHORTEST • 18 HOURS QUICKEST

SOUTHBOUND—TRAINS RUN DAILY

STATIONS.	No. 2	Example by Days.
Leave. ST. LOUIS	8 20 P M	Monday
Leave. TEXARKANA	12 10 Noon	Tuesday
Leave. SAN ANTONIO	9 00 A M	Wednesday
Leave. LAREDO	3 30 P M	"
Leave. MONTEREY	11 20 P M	"
Leave. SAN LUIS POTOSI	2 35 P M	Thursday
Leave. QUERETARO	10 22 P M	"
Arrive. MEXICO CITY	6 30 A M	Friday

NORTHBOUND—TRAINS RUN DAILY

STATIONS.	No. 1	Example by Days.
Leave. MEXICO	9 00 P M	Monday
Leave. QUERETARO	4 48 A M	Tuesday
Leave. SAN LUIS POTOSI	12 05 Noon	"
Leave. MONTEREY	12 19 Night	"
Arrive. LAREDO	6 25 A M	Wednesday
Arrive. SAN ANTONIO	12 40 Noon	"
Arrive. TEXARKANA	3 50 A M	Thursday
Arrive. ST. LOUIS	7 30 P M	"

THROUGH PULLMAN CAR SERVICE.

Through Standard Pullman Drawing-Room Buffet Sleeping Cars daily between St. Louis, Mo., and Mexico City, via Iron Mountain Route and Laredo by Trains Nos. 1 and 2.

Pullman Sleeping Cars operated daily between Mexico and Gonzalez and Morelia.

THE ONLY LINE OPERATING THROUGH PULLMAN SLEEPERS BETWEEN MEXICO AND THE UNITED STATES

The Interoceanic Railway of Mexico, "The Tropical Scenic Route," operates a fast night train between Mexico City and Veracruz, and has two trains daily to Puebla

W. B. RYAN, Traffic Manager **G. W. HIBBARD, General Passenger Agent**

Colonia Station, Paseo de la Reforma, Mexico City

35

Tourists visiting Mexico should on no account miss a trip over the

MEXICAN RAILWAY

"THE RAIL TRIP OF A THOUSAND WONDERS"

DEDICATION

To those who operated trains in the oppressive heat and humidity of the jungles, across searing deserts, up and down severe mountain grades to extreme altitudes not found in other parts of the world. They did it with a variety of equipment on tracks laid to various gauges and operated trains under the most adverse conditions. They were true 'brothers' of railroading in every sense of the word!

This volume, #19, contains 120 pages with 810 clips of 22 countries

Where a single construction number is shown it is for the engine illustrated.

Clips initialed 'OKM' are those salvaged from a scrapbook of my father.

Biographic Sketch of Henry Meiggs

The Great Railroad Builder

ıry Meiggs was born in Catskill, Greene , New York on July 7, 1811. He was the son in a family of nine children. His Elisha, descended from Vincent Meiggs ıd settled in New Haven, Connecticut 544. Henry Meiggs had only a grade school on. He first gained prominence in Boston cessful young merchant speculating in the business. His ventures prospered and he e to acquire a small fortune which, unfor-, was all lost in the U.S. panic of 1837. A er he moved to Williamsburg, New York, ıe opened a lumber yard and managed to a profitable enterprise until he again insolvent in 1842. In that same year he to New York City where he seemed to newed success. Over the following several s a hobby, he devoted attention to the Arts nded the American Musical Institute. For fterward he found time, in the midst of financial dealings, to encourage and assist ns.

848, with the news of the gold discovery in nia, Meiggs in his unique and characteristic , loaded the ship *Niantie* with a cargo of and sailed around Cape Horn with his , John J. Meiggs. Arriving in San Fran-uring July 1849, he sold the lumber for a me profit of $50,000. Meiggs then em-on a new lumber venture, meanwhile pre-his plans for great speculations. Soon after-with a laboring force of 500 men, he went into the forests east of San Francisco, felling many noble trees and floating them through San Francisco Bay to the city wharf. Here, using a steam-powered lumber mill, he sawed the logs into usable lumber and eventually made a profit of $500,000. Thereafter he became a very prominent member of the California community. He continued his lumbering operations which assumed gigantic proportions; he was esteemed by everyone for his abilities and generosity. However, a financial crisis in 1854 crippled his business and attempts to salvage his fortune and those of various friends and investors brought about financial ruin. In his frenzy, Meiggs committed various forgeries amounting to more than $900,000 and, finding that discovery was inevitable, sailed south with his wife and children on the steamship *American* on October 5, 1854. Meiggs found a harbor of refuge in Chile and his name, associated with many remarkable schemes, has been before the world ever since. During a large part of his subsequent career, he was a fugitive from United States justice.

By 1861, Henry Meiggs had gained a new and respectable reputation in Chile where he was considered a man of exceptional energy, ability, and accomplishment. As a construction superintendent on part of the Santiago Sur Railroad he turned in an enviable record. The Chilean government then contracted with him to finish the troublesome Valparaiso-Santiago rail line in four years for $12 million. Meiggs, showing remarkable

ity, drive, and organizational ability, com-the job in two years deriving a fantastic of $1,320,000. In a short period, Meiggs e a "man of property" in Santiago and an ed member of that community. He ally became involved in numerous land ctions in Chile and schemes for building ys across the Andes mountains. His main on soon turned to Peru where the govern-ought his advice and assistance in an exten-il construction program funded from its and guano deposits. Beginning in 1868, a generous contract for a rail line from ndo on the south Peruvian coast to inland ipa, Meiggs in the next five years, by zeal ribery which paralyzed all opposition, d contracts totaling about $120 million, for 1,000 miles of standard gauge railways. letion of the Mollendo-Arequipa Railway was celebrated by ceremonies attended by eruvian President and 2,000 other guests, it is alleged, lasted for two weeks and d entertainment costs variously estimated en $200,000 and $600,000. Later, Meiggs ed the Arequipa railroad to Puno on Lake ca, crossing the Andes at 14,665 feet; he also branch to Cuzco, the old Inca capital.

ıe executive genius of Henry Meiggs was nown in his construction of the famous , Lima, and Oroya Railway, the highest rd gauge railroad in the world. His great job neling under Mount Meiggs at 15,658 feet vely "broke the back of the Andes moun-This line, with its dizzy heights and ts and 65 tunnels, built in the face of incred-lds, remains one of the engineering wonders world. Before it was completed, Peru was upt and Meiggs, having sunk his own per-ortune into the venture, looked around des-ly for a means to extricate himself. He per-the government to give him a new contract nplete the line, with the right also to drain perate the fabulous Cerro de Pasco silver Meiggs issued new notes on his contract; orkers were recalled and confidence again d until it was determined that his paper was worthless. The notes were consequently ed from England unhonored.

succession of paralytic strokes carried s to his death on September 29, 1877 at 66 of age. He was buried with elaborate cere-s in a cemetery in Lima. Meiggs had married Gertrude Burns on April 9, 1832, and a second wife, Caroline Doyle, in 1837. Three children, two sons and a daughter, survived these two marriages.

A man of commanding presence, admirable tact and untiring energy, Meiggs was also vain, impetuous, and an incurable prodigal. Manuel Gonzales Prada, one of Peru's great writers, had this to say about Meiggs: "He built many bridges and tunnels in the Andes, but wrecked many homes and reputations in Lima. He had a great harem of the most aristocratic ladies and girls in Lima. In the corrupt spirit of guano enrichment, the people were willing to throw themselves into a sewer if, at the bottom, they glimpsed a golden sol."

It has been stated that Meiggs repaid most of his San Francisco debts, and did much to improve the environs of Lima with parks and boulevards. In 1874 he secured passage of a law by the California Legislature, over the Governor's veto, making it illegal for a grand jury to indict him for offenses committed before 1855.

The life of Henry Meiggs is covered, more or less, in the following references:

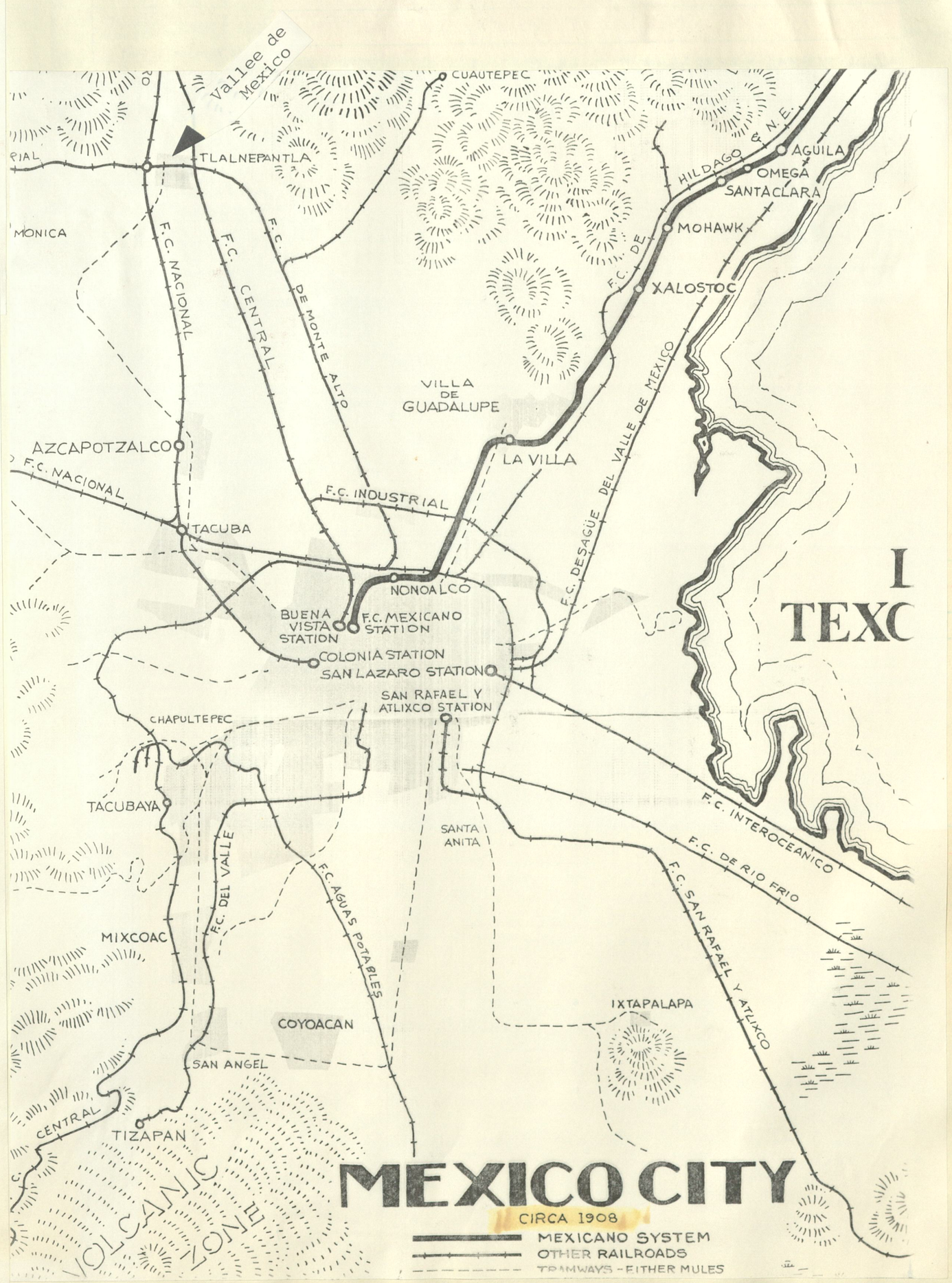
1. Federico Costa y Laurent: *Resena Historica de los Ferrocarriles del Peru.* (Lima, 1908.)
2. F. M. Halsey: *Railway Expansion in Latin America.* (New York, Moody Magazines, 1916.)
3. E. W. Middendorf: *Peru.* (Not available. E.A.H.)
4. *Colleccion de Leyes, Decretor, Contratos y Demas Documentos relatinas a los Ferrocarriles de Peru.* 1871. (Collected by Meiggs' orders before his death.)
5. Watt Stewart: *Henry Meiggs: Yankee Pizarro.* (Durham, N.C.: Duke University Press, 1946.)

Periodicals and newspapers

1. *The Pioneer* (San Francisco) Nov. 1854, pg. 297; Jan. 1855, pg. 16–22.
2. *The Overland Monthly,* August 1871.
3. *Scribner's Monthly,* August 1877.
4. *Engineering News,* October 20, 1877.
5. *New York Tribune,* October 11, 1877.
6. *San Francisco Chronicle, Daily Morning Call* (San Francisco)
7. *New York Times,* October 12, 1877, p. 5, col. 4.

Meiggs was a legend while he lived, a legend in death, a legend so powerful, so varied and so inconsistent in its countless inconsistencies that it seems improbable an accurate account of Henry Meiggs or his work will ever be known.

Sr. Gallardo, a "pen pal" I met thru the old International Engine Picture Club of Railroad Man's Magazine



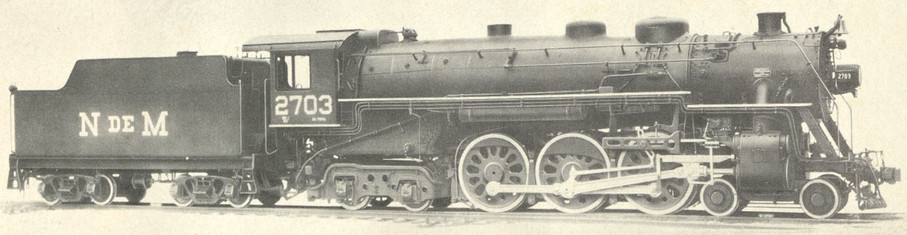
NATIONAL RAILWAYS OF MEXICO

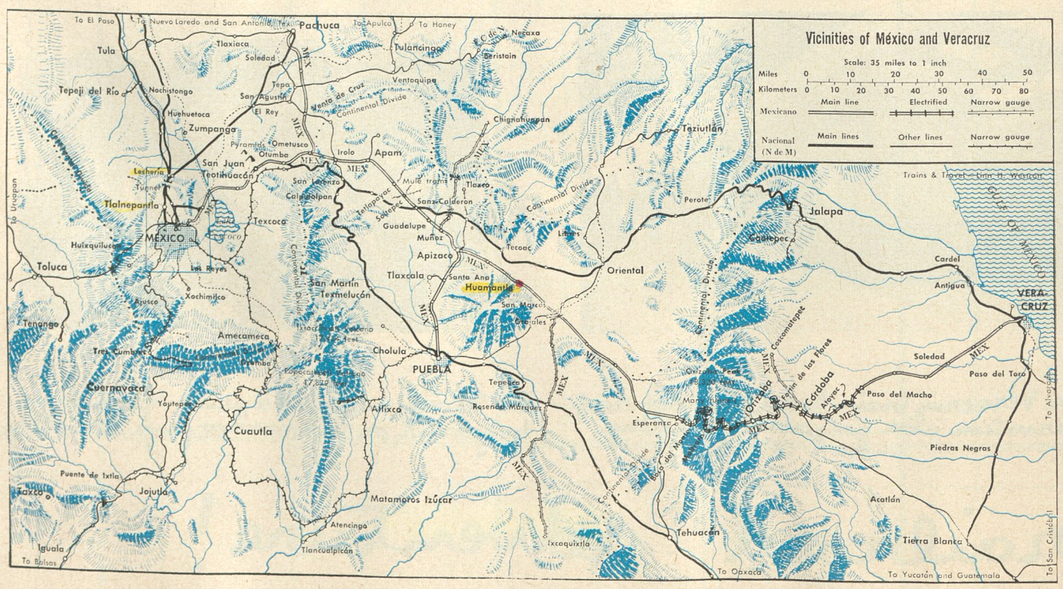
FERROCARRILES NACIONALES DE MEXICO

In 1927 the NdeM operated 1,496 miles of Narrow gauge and 6,821 miles of Standard gauge. Engines; 649 oil burners and 296 using coal. Owned 8,440 freight and 347 passenger cars

Mexico was the last stronghold of steam power in North America. Here, on November 7, 1960, Hudson type 2709 does the honors with a nine car train outside of Huamantla on the former Mexicano Vera Cruz-Mexico City main line.

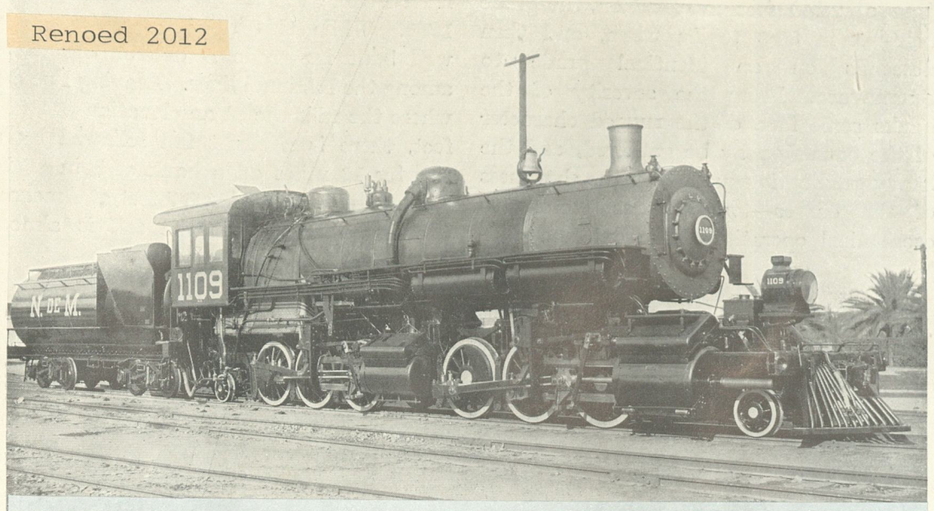
2700-2709 c/n 69012 Schenectady 1937





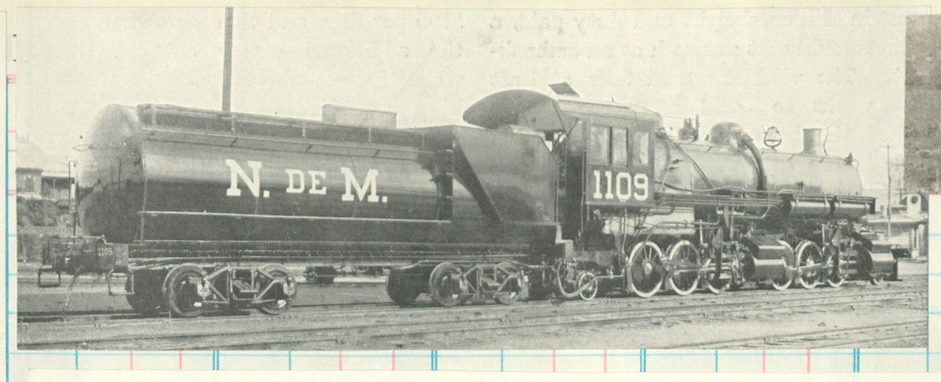
SELLER
DATE
FORM

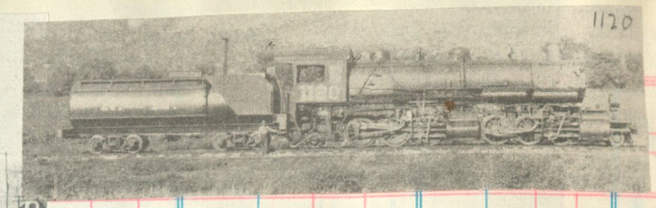
Renoed 2012



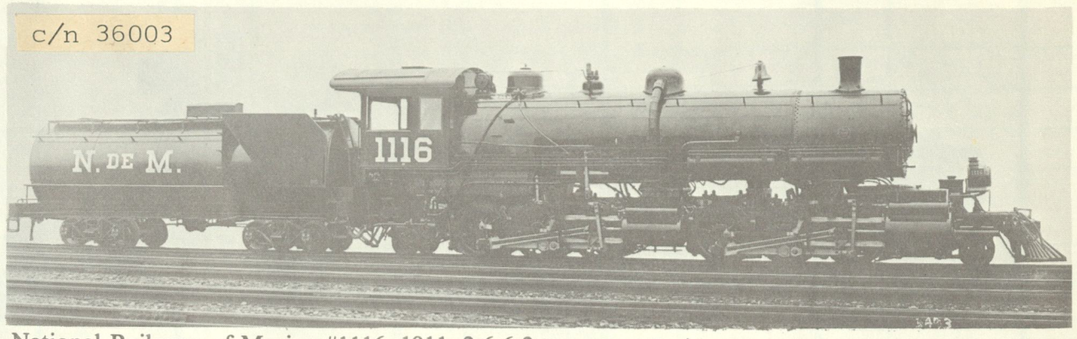
1109-1120 c/n 35899 Baldwin 1911

NATIONAL RAILWAYS OF MEXICO'S MALLET ARTICULATED COMPOUND OIL-BURNING FREIGHT LOCOMOTIVE.
Total length 103 feet; weight in running order 227 tons.



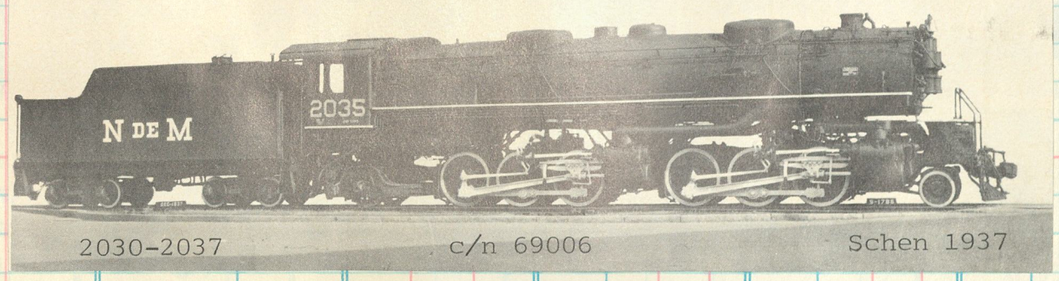


c/n 36003



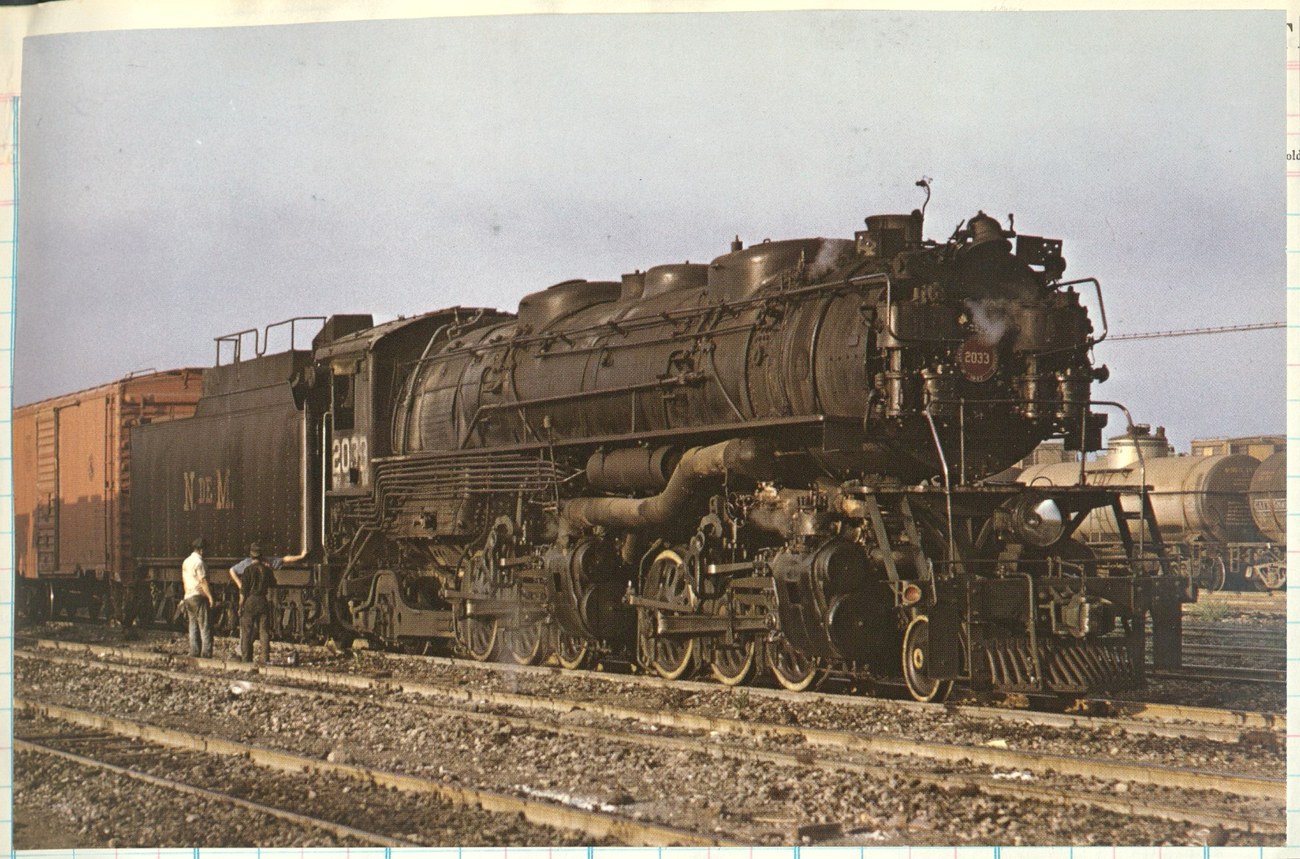
National Railways of Mexico #1116, 1911, 2-6-6-2 type. Baldwin renoed 2018

c/n 69002



2030-2037 c/n 69006 Schen 1937

Departing T1a1nepant1a



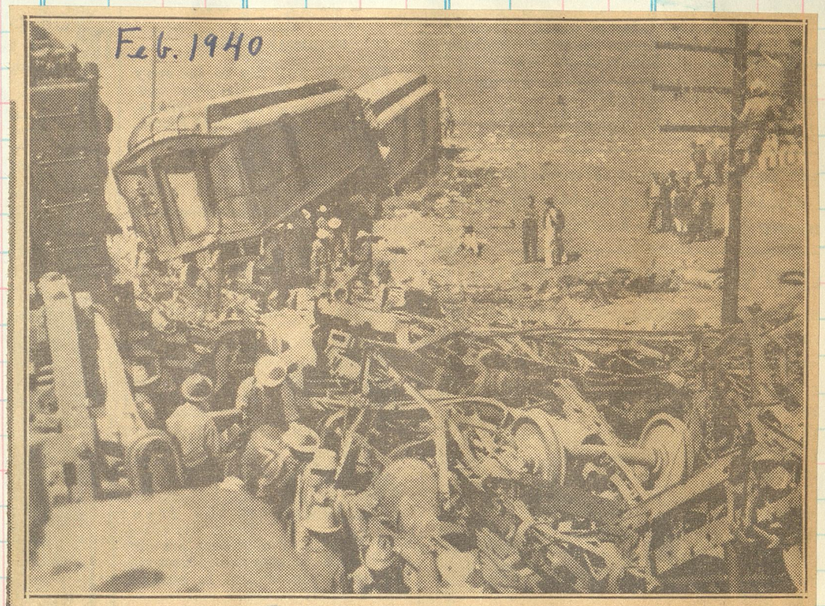
The 2033 charges out of the tunnel at Lecheria with northbound tonnage

D.F. • Robert F. Collins BARRIENTOS TAN

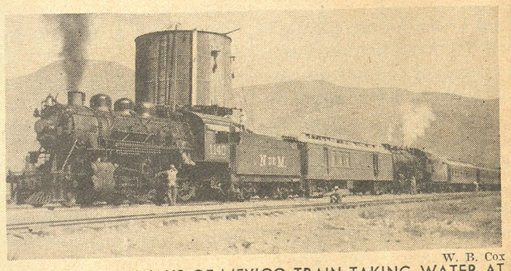
A GRADE in excess of 4 per cent up through Tomellin Canyon has reduced the tonnage rating of National Railways of Mexico compound 2-6-6-2 2021 to a mere 300 tons, so the Mallet — en route from Tomellin to Oaxaca with local freight 498 on December 27, 1959 — must double the hill. Rear-end crew decorates the cupola as the first half of the train is hoisted by the old (1911) Baldwin.

Frank Barry.

Feb. 1940

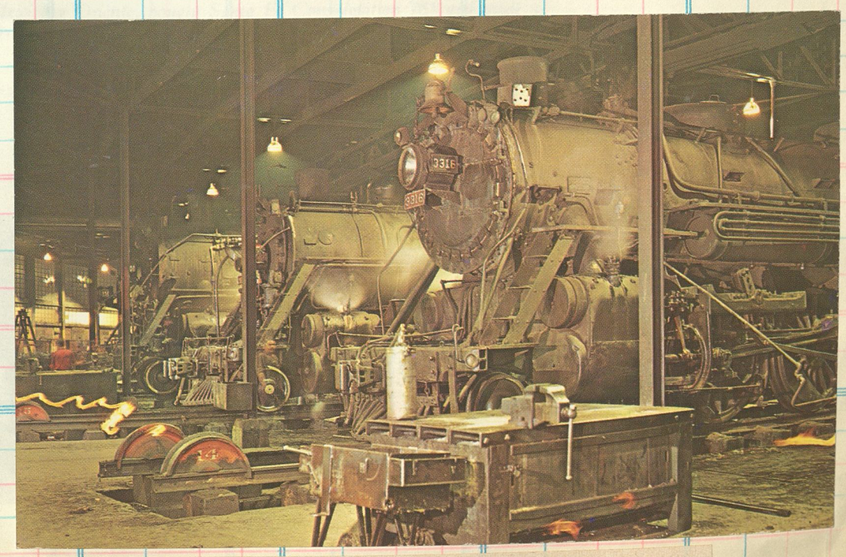


MEXICAN WRECK. Twisted steel is grim evidence of fatal collision in which nine persons were killed at Las Adjuntas, Mexico. Freight headed north hit passenger train.



W. B. Cox

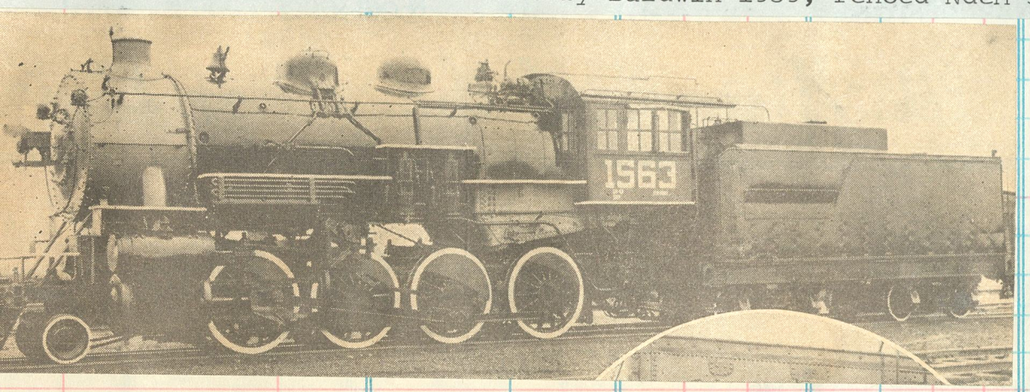
NATIONAL RAILWAYS OF MEXICO TRAIN TAKING WATER AT RAMOS ARISPE, MEXICO.



Enginehouse-Valle de Mexico-May 1964

3351
secured 1950
c/n 62323
Retired 1962

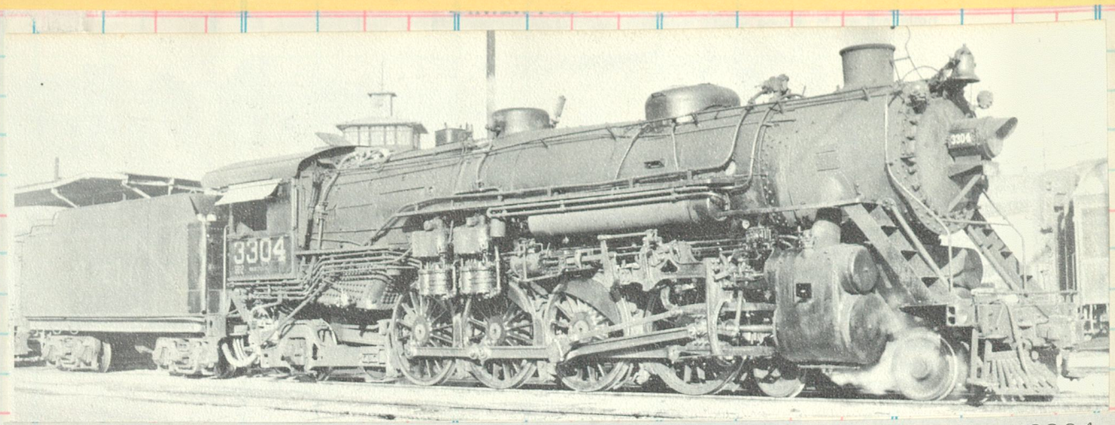
The only Berkshire type to operate in Mexico was five purchased from the Norfolk Southern nos 600-604 blt by Baldwin 1939, renoed NdeM 3350-3354



During the War the C&NW sold over thirty of its Class Z Consolidations to the NdeM. The 1563 was C&NW 1746 built by Schenectady in 1910 c/n 47866. Reblt, as shown, at West Burlington shops (CB&Q) in 1942.

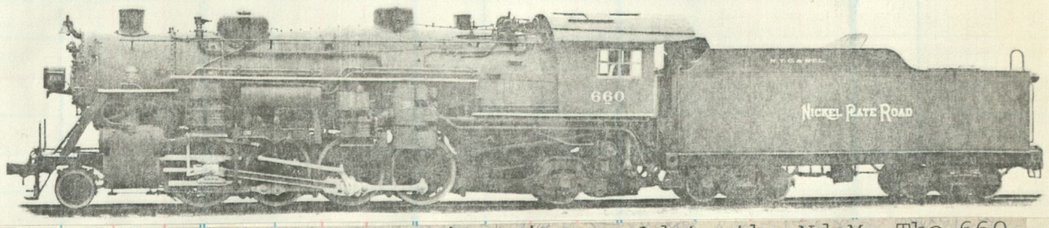
A pair of "gringoes", the 1582 a 2-8-0 ex C&NW 1717 Baldwin 1910 c/n 35103 and the 2209 a 2-8-2 ex NKP 588 built by Baldwin 1918 as LS&MS 5542 then LE&W 5542 NKP 588 c/n 49684, assault the hill near Zacatecas with northbound tonnage.

The NdeM standard gauge roster discloses that an excess of 300 second hand engines from over two dozen different U. S. roads were sold to the NdeM. The NdeM shop forces were experts in restoring this power that was to provide many additional years of useful service.

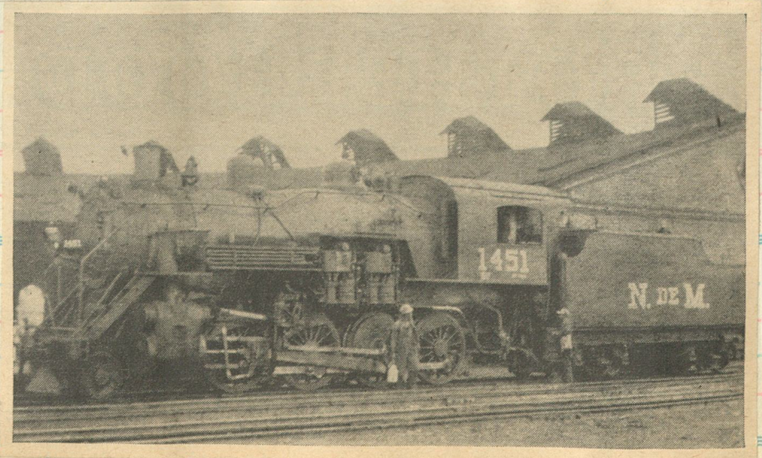


The NdeM obtained thirty 4-8-2's from the Florida East Coast. #3304, ex FEC 443, was built at Schenectady 1926 c/n 66716

Another of the FEC 4-8-2's (FEC 425) at work on the Queretaro Div.

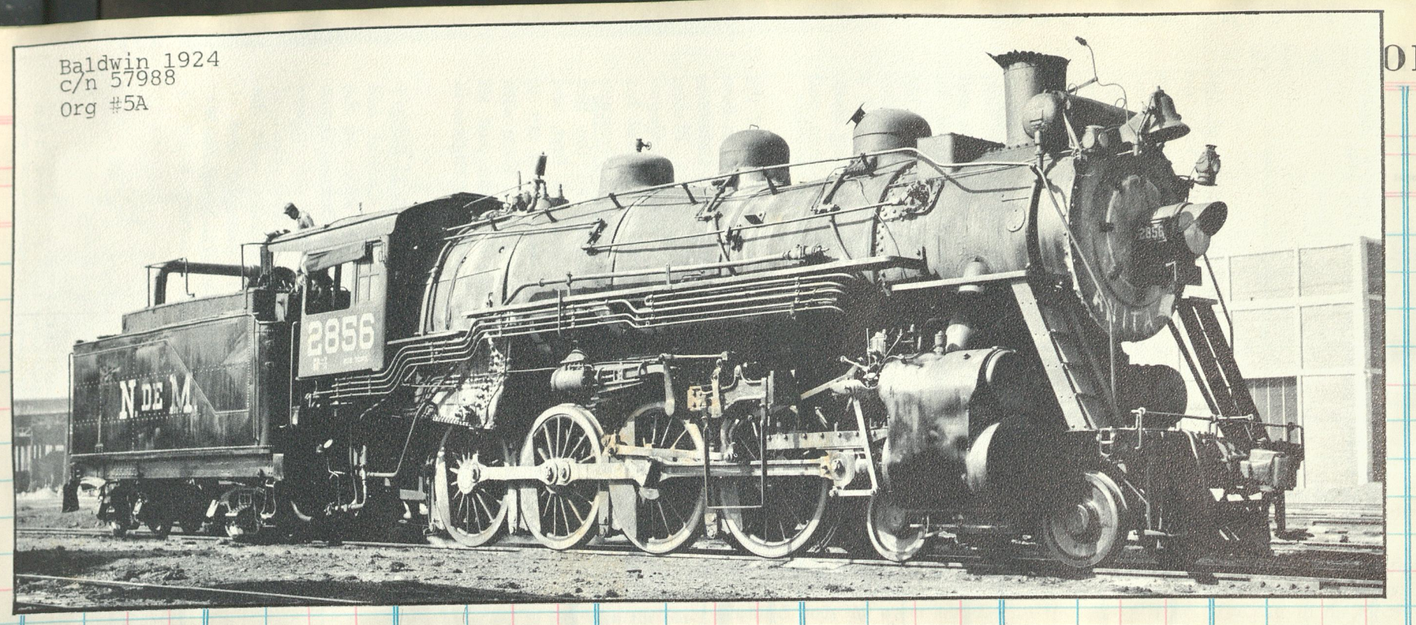


NKP 660 was one of twenty five Mikes sold to the NdeM. The 660 blt by LIMA in 1923 c/n 6663 and noed NdeM 2220

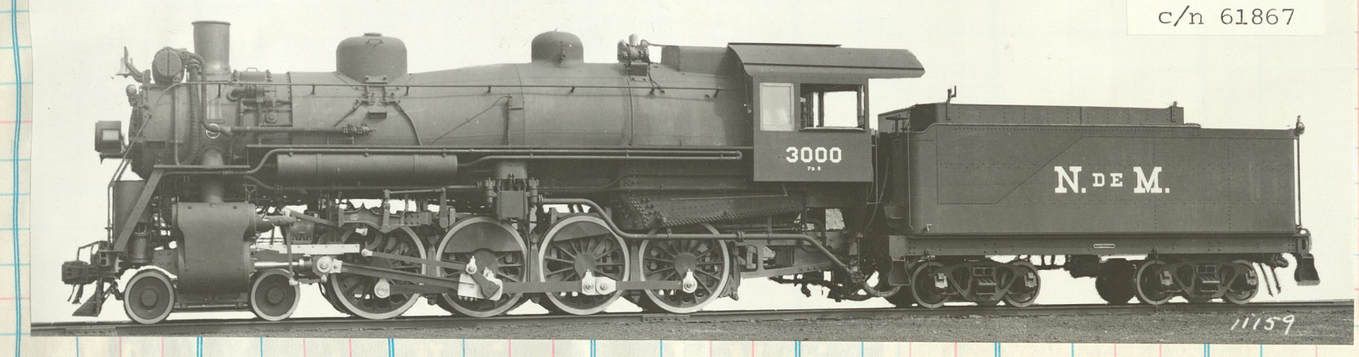


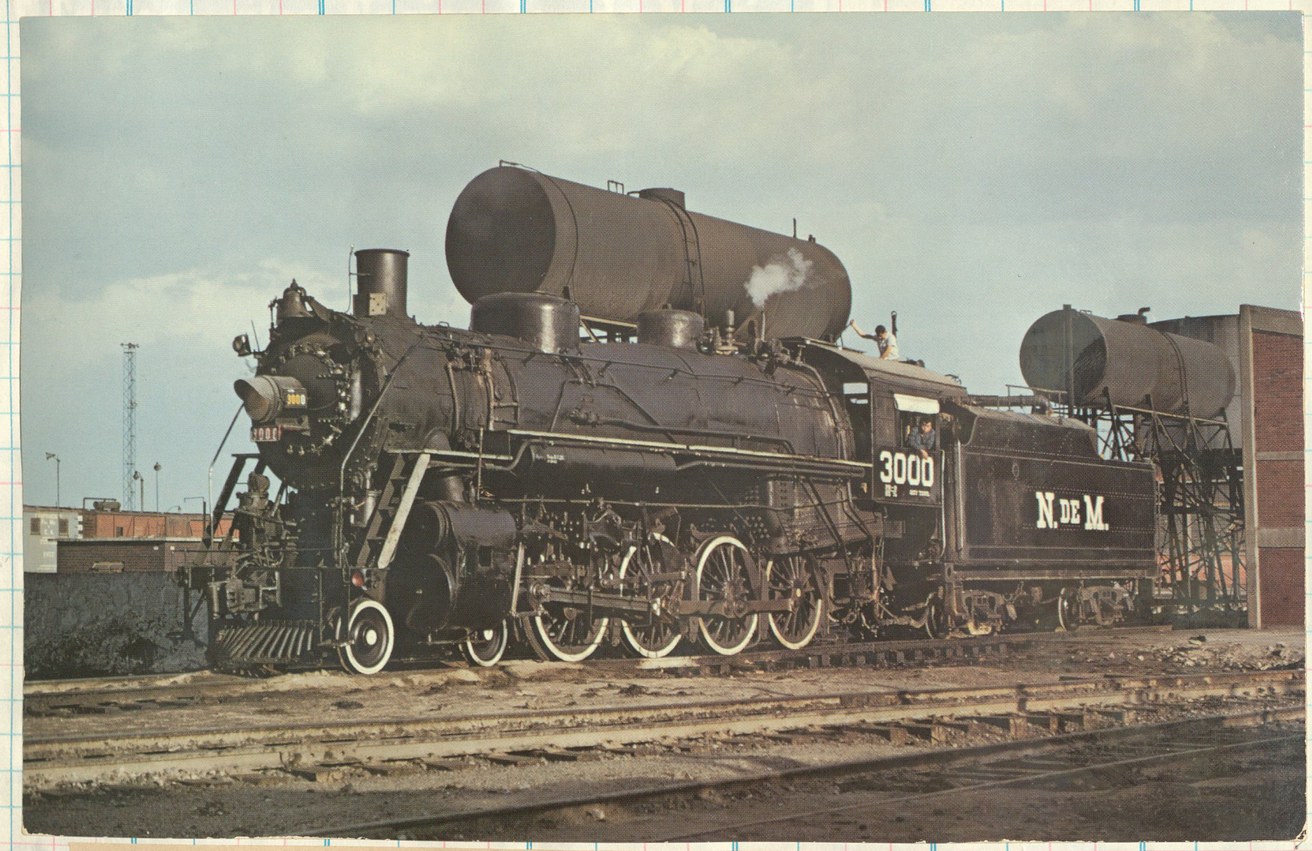
Ten Rock Island 2-8-0's purchased 1942 and noed NdeM 1450-1459. 1451 blt by Baldwin in 1906 as RI 1706 c/n 27801

Baldwin 1924
c/n 57988
Org #5A

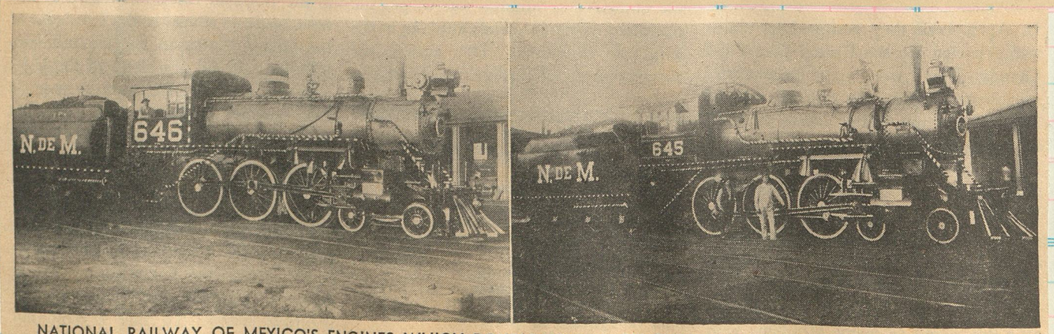


c/n 61867





Most roads considered the 4-8-0 type as obsolete but not the NdeM who had Baldwin build them five [3000-3004] in 1935 for use in passenger service. Noble and dignified in appearance their performance was just as impressive. In certin cases they exceeded that of the 4-8-4's that came along a decade later. Specs were 28x28 cyls, dvs 67", BP 200 lbs and t e was 55,700#. The bottom foto taken at Valle de Mexico in 1962.



NATIONAL RAILWAY OF MEXICO'S ENGINES WHICH DOUBLE-HEADED ON THE HISTORIC PRESIDENT DIAZ SPECIAL IN NOVEMBER 1909.

646 blt for Lantry Sharp Constr Co by Rogers in 1906 c/n 40743. To C.M. 546, 646 to NdeM 646, 354

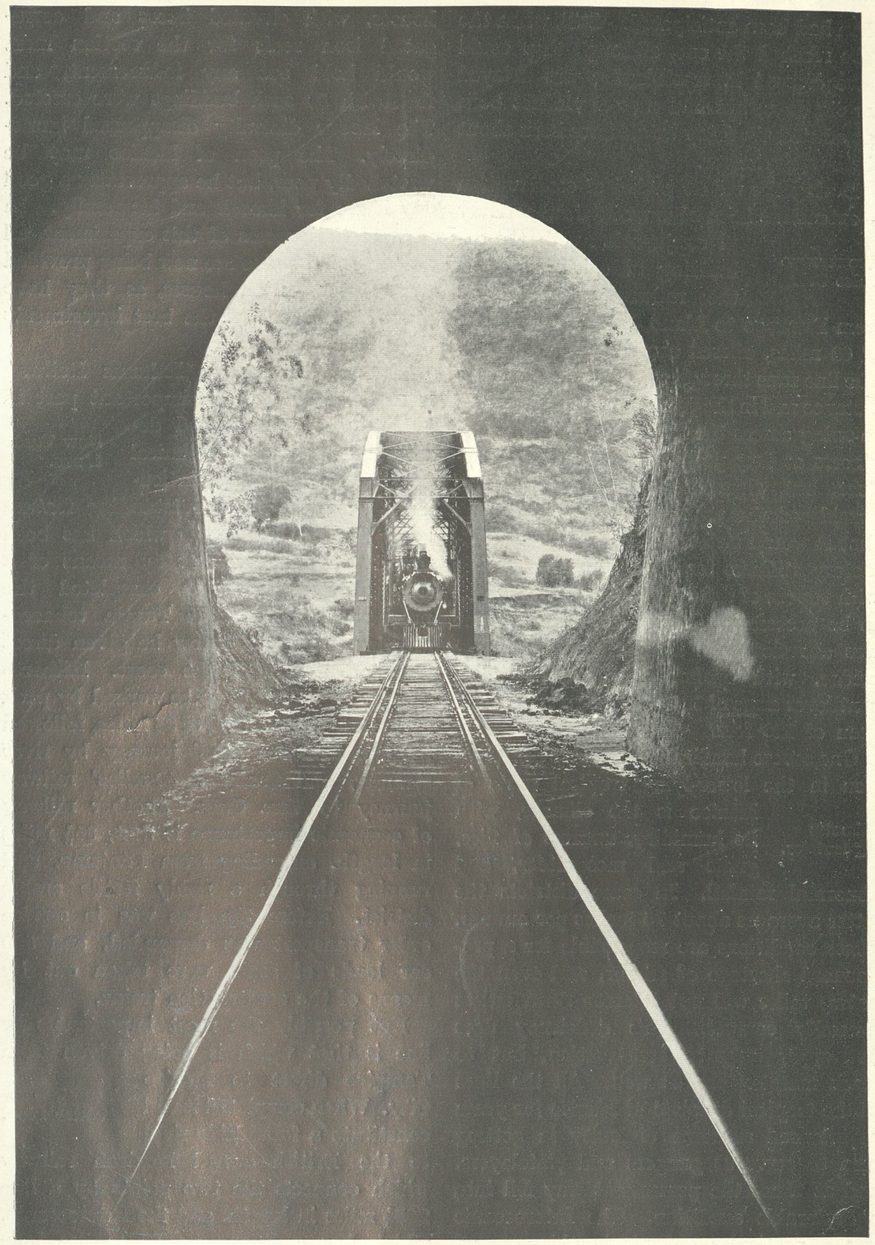
645 built as Mexician Central 545 by Rogers 1906 c/n 40746. To C.M. 645 then NdeM 645, 353

ON.

5

Clos.N

mount

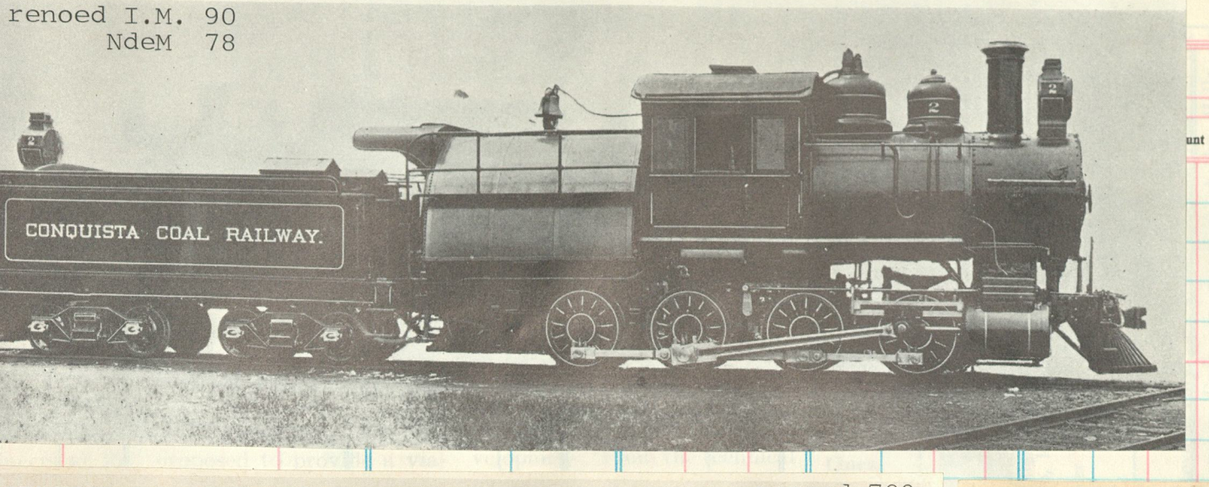


THE FIRST BRIDGE AND TUNNEL SOUTH OF TUXPAN, ON THE TUXPAN-COLIMA BRANCH OF THE NATIONAL RAILWAYS OF MEXICO.

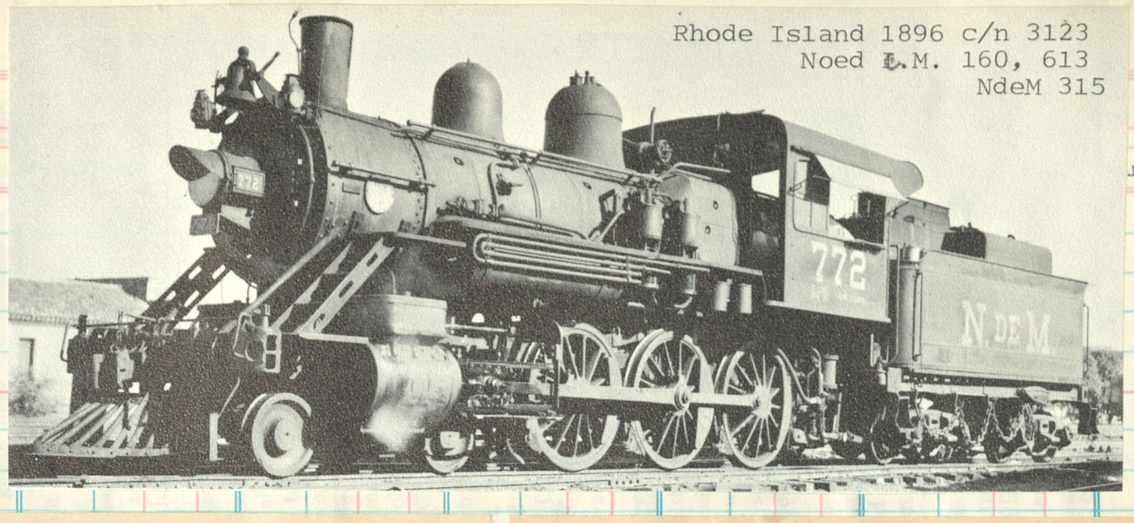
A High Bridge Over the Tula River

Baldwin CAMELBACK 0-8-0 for a Mexican Coal Company—1901. (Collection of C. A. Brown) c/n 19277

renoed I.M. 90
NdeM 78



Rhode Island 1896 c/n 3123
Noed C.M. 160, 613
NdeM 315

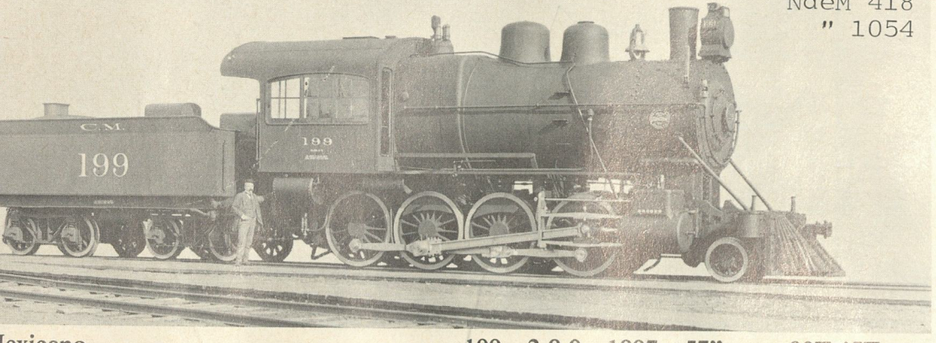


Pg 96

.No. Sold Amount

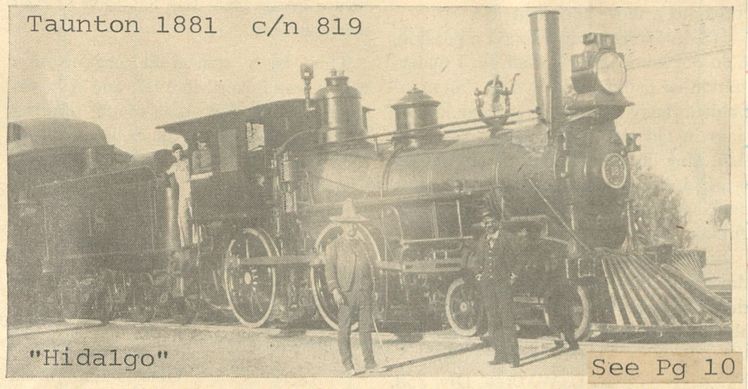
97-206 Brooks 1897 c/n 2828

renoed 708
NdeM 418
" 1054



Mexicano 199 2-8-0 1897 57" 90T-45T

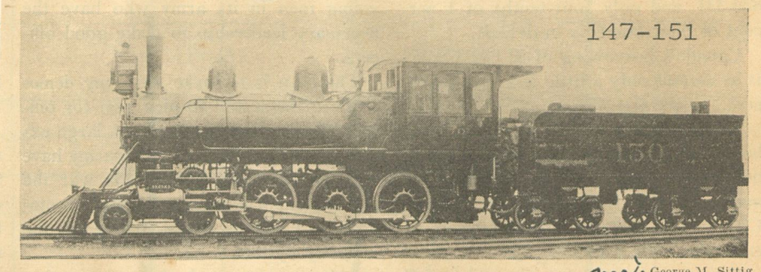
Taunton 1881 c/n 819



"Hidalgo" See Pg 10

MEXICAN CENTRAL RAILROAD'S ENGINE 18 WITH "PAY-CAR SPECIAL"
This photo was taken in Mexico City in 1898, and is the property of Brother J. L. Rainey, Div. 36, who was firing the engine at the time, and is seen standing in the gangway.

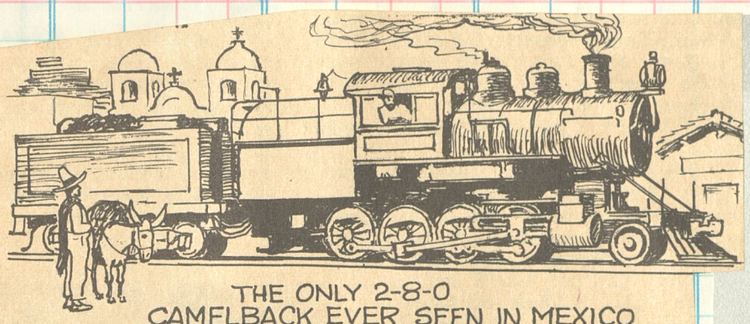
147-151



IS THIS ENGINE STILL RUNNING IN MEXICO? Yes. George M. Sittig
Information is wanted about locomotive 150 of the Central de Mexicano line, built in 1895 by the Brooks Works. It bore Brooks' shop No. 2583.

Renoed CM 660, NdeM 345, 819 Retired 1957

Station and Office Building at Aguascalientes

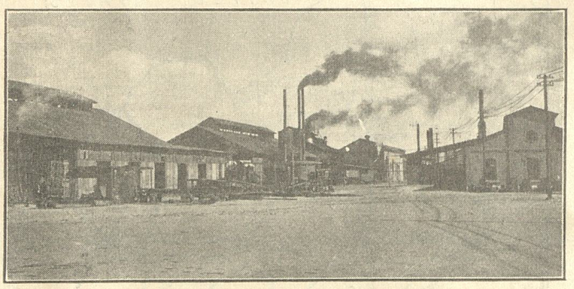


THE ONLY 2-8-0
CAMELBACK EVER SEEN IN MEXICO

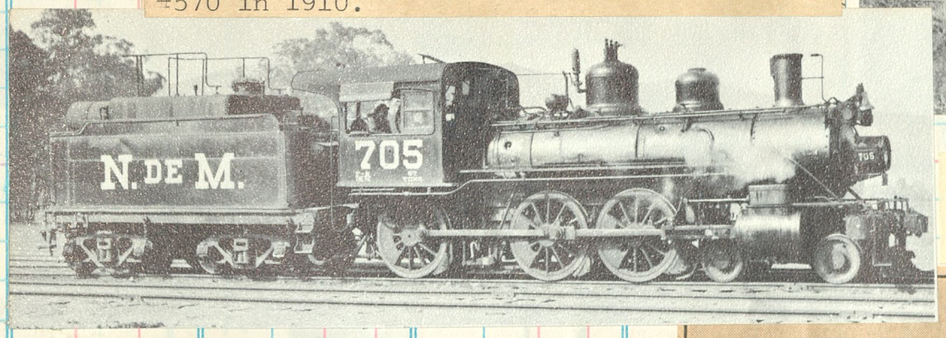
Blt by Baldwin 1904 c/n 24787 as F.C. Carb de Coahuila # 3 [Mexican Coal & Coke Co.] To Mex Internt1 #91 in 1906, then as NdeM #570 in 1910.

A gallant Mogul, the 658, stepping along with an interesting mixed consist outside of Iraputo on Feb 19, 1960. Note the extra sand dome, a common addition on many NdeM engines

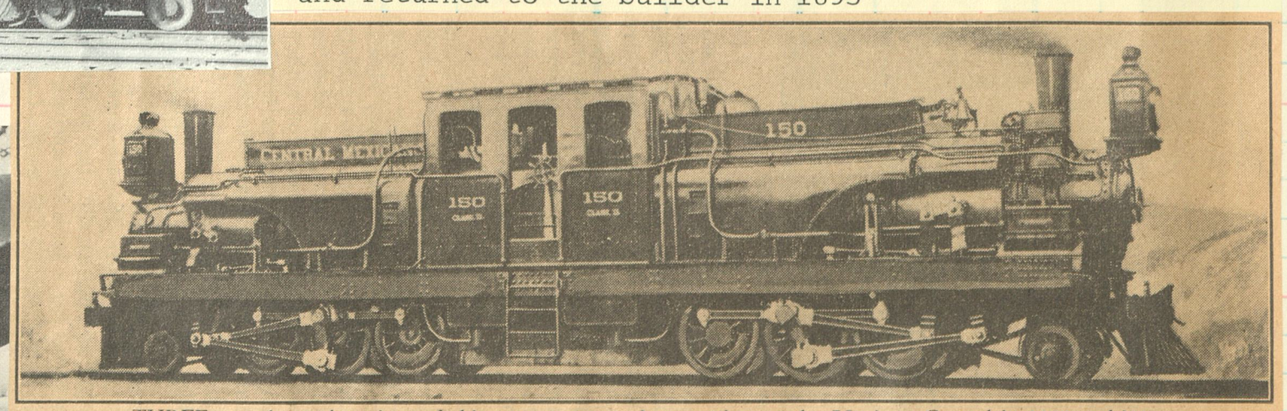
The 658 blt by Cooke 1903 c/n 28304 as C.M. 134, to NdeM 119, 658



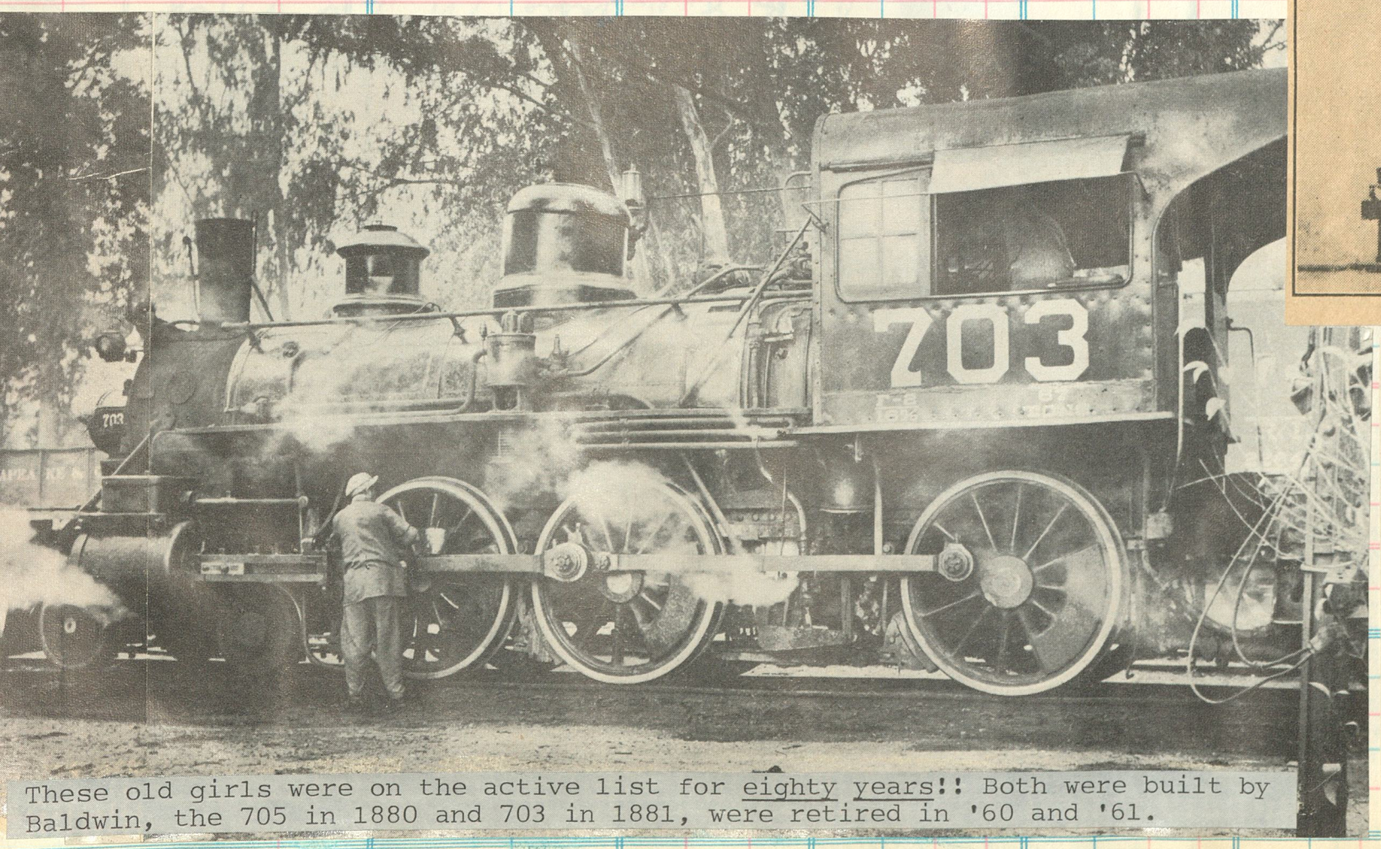
The National Railways Shops at Aguascalientes



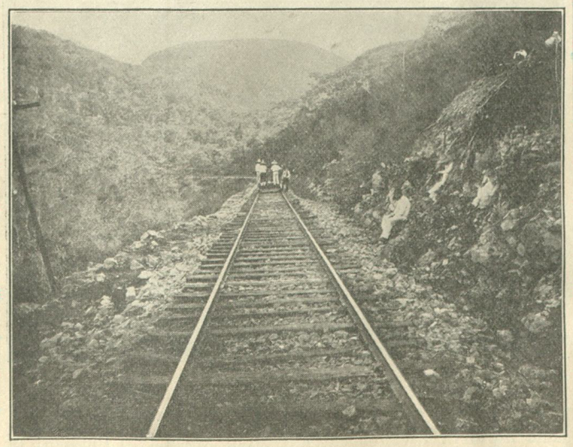
This odd 'double-ender' of the Fairlie plan was designed by F. W. Johnstone, CM's Super MP, and Rhode Island blt three noed 150-152 in '92 & '93 c/n's 2808-10. Were unsuccessful and returned to the builder in 1895



THREE experimental engines of this type were put into service on the Mexican Central in 1892 and '93



These old girls were on the active list for eighty years!! Both were built by Baldwin, the 705 in 1880 and 703 in 1881, were retired in '60 and '61.



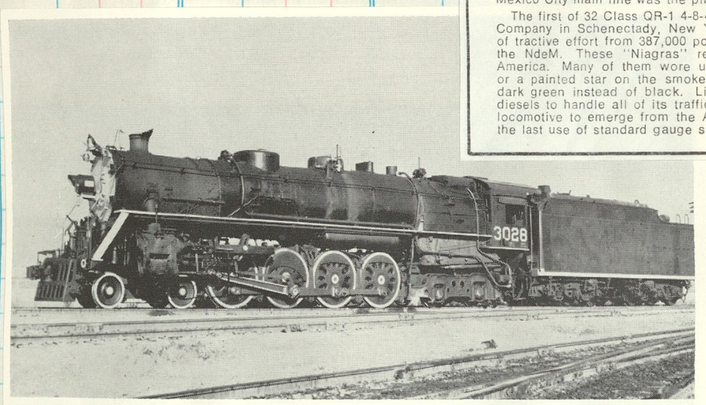
On the Tampico-San Luis Potosi Branch of the Mexican National 1922

A Three-Span Cantilever Bridge Over the Chico River on the National Lines

In the early 1960's, Mexico became a magnet for North American railfans. By then, steam power and mixed trains were virtually gone from the United States and Canada, and passenger trains were vanishing rapidly, but the Ferrocarriles Nacionales de Mexico was still operating much as its northern neighbors had twenty years earlier. Like almost everything else in Mexico, railfan interest centered in the area around Mexico City, for not only was traffic density highest there, but early dieselization of arid northern Mexico had concentrated steam power near the capitol. In contrast with its operations, NdeM's fixed plant in the Mexico City area was ultra-modern. Passenger trains ran from the beautiful Buenavista Station (completed in 1956) out a double tracked, CTC-controlled mainline to the northwest, with other lines branching off. About 10 miles out, in the suburb of Tlalnepantla, was Valle de Mexico, a modern engine terminal and hump yard also built in 1956.

In this view 4-8-4 No. 3025 is moving a freight train out of Valle de Mexico's departure yard, past the CTC signal, and onto the westbound main line. It is around 6:00 P.M. in the afternoon of May 27, 1962. Ahead lies a night run to numerous towns, including Queretaro, Celaya, and Salamanca, where the train will pause to pick up and set out cars. Finally, after a 200 mile run that may take up to 14 hours, the train will arrive at the city of Irapuato, the junction of the lines to Ciudad Juarez and Guadalajara. There, the engine will cut off and be serviced for the return run. While steam in 1962 was scattered from Zacatecas to Veracruz, the Irapuato-Mexico City main line was the place for action.

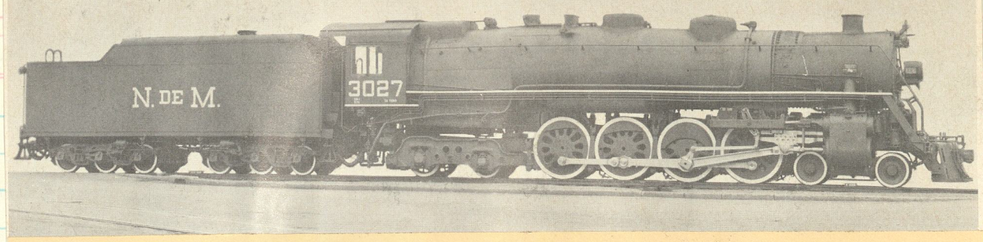
The first of 32 Class QR-1 4-8-4's, No. 3025 was built for the NdeM by the American Locomotive Company in Schenectady, New York, in 1946. With 70-inch drivers, it developed 57,000 pounds of tractive effort from 387,000 pounds of engine weight, and it was rated at 2,800 horsepower by the NdeM. These "Niagras" represented the lightest 4-8-4's ever built for service in North America. Many of them wore unique decorations, such as a bronze eagle over the smokebox or a painted star on the smokebox door, applied by the engine crews. Some were painted a dark green instead of black. Like railroads in the United States, NdeM soon received enough diesels to handle all of its traffic. On September 3, 1963, 4-8-4 No. 3046 became the last steam locomotive to emerge from the Aguascalientes shops with a complete overhaul. Five years later the last use of standard gauge steam power on the NdeM in mainline service took place in 1968.



Jim Shaughnessy

ALCOS assemble as Great North Eastern Railroad Foundation's ex-National Railways of Mexico 1946 4-8-4 3028 moves through Voorheesville, N.Y., November 6, 1982, behind Delaware & Hudson 1952 RS3 4099. GNERF did not renew lease on storage space for 3028 at state fair-grounds in Altamont, N.Y. D&H will hold Niagara at Colonie Shops pending a new home.

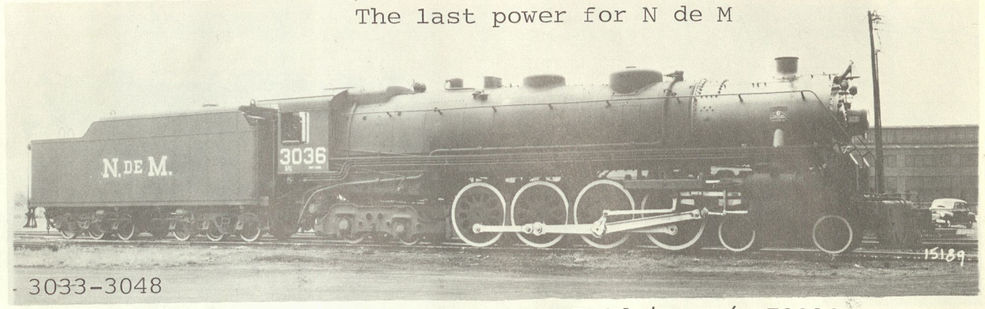
3025-3032 c/n 74382 Schen 1946



Class QR-1

3025-3032	c/n's 74380-74387	Schenectady 1946
3033-3048	73018-73033	Baldwin 1946
3049-3056	74825-74832	Schenectady 1946

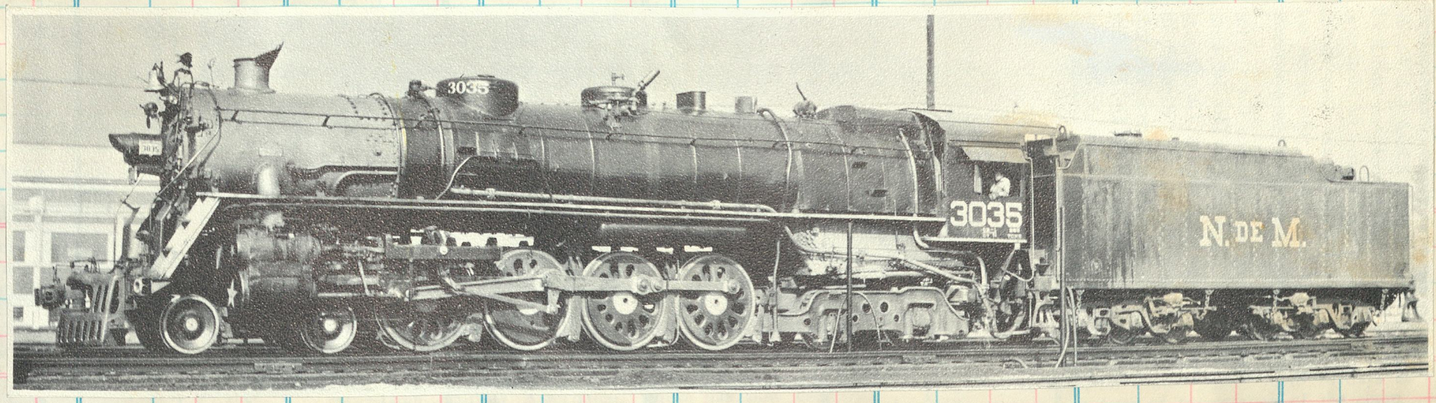
The last power for N de M



3033-3048

National Railways of Mexico #3036, 1946, 4-8-4 type. Baldwin c/n 73020

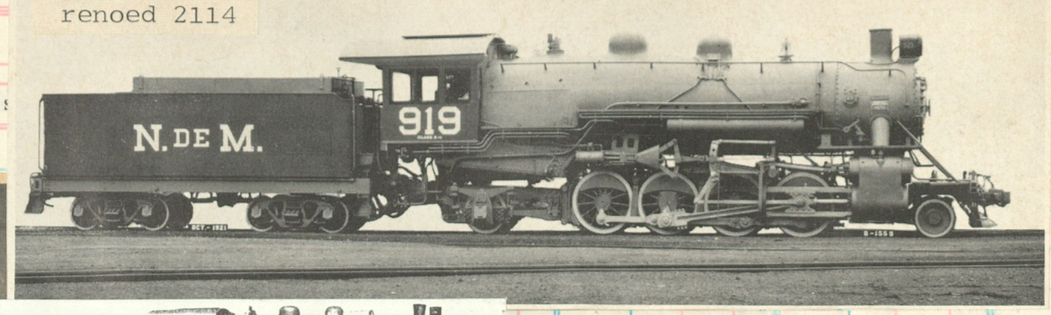
Northern type #3038 (class QR-1) one of the last engines constructed for the NdeM (Baldwin 1946) leaves Barrientos in 1964.

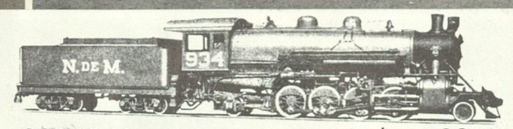


Mike 2119 (ex 924) with Trn 34 near Salazar

919-925
c/n 63126
renoed 2114

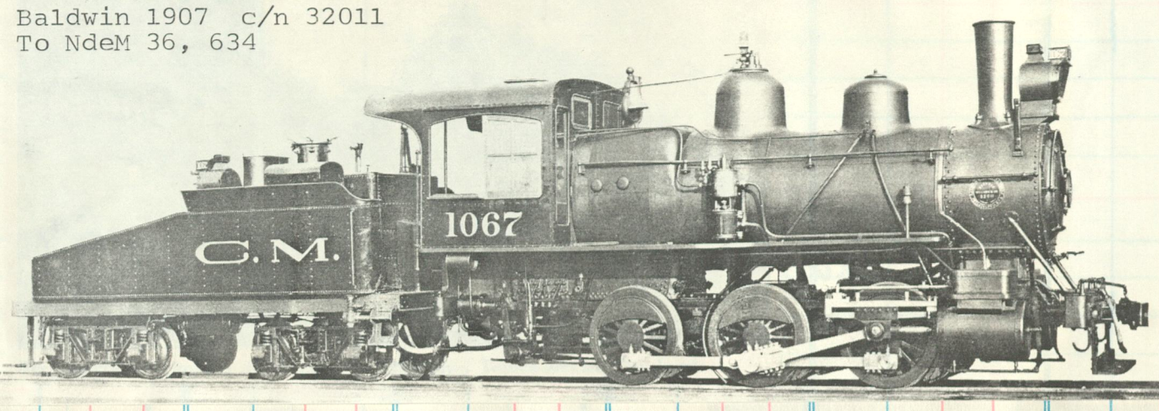
Brooks 1921



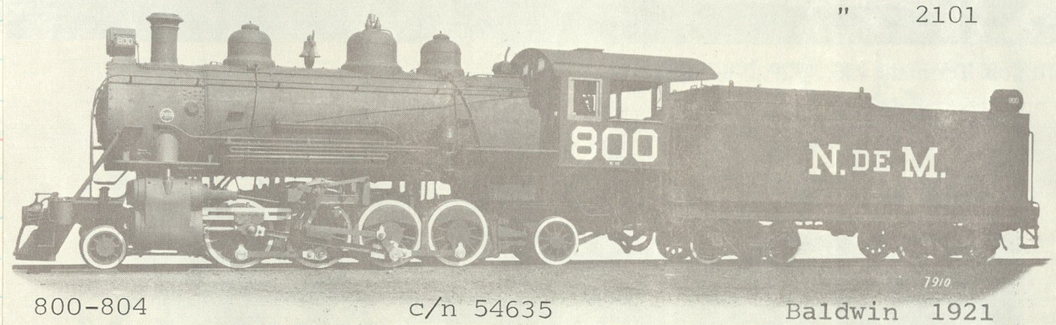


926-940 Baldwin 1921
renoed
2121-2135 Mikado Type Locomotive
National Railways of Mexico
Cylinders, 25" x 30" Drivers, Diam., 57"
Weight, Total Engine, 270,000 lb.

Baldwin 1907 c/n 32011
To NdeM 36, 634

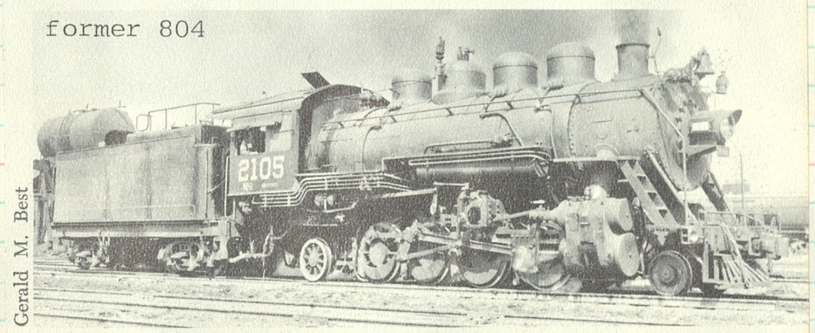


renoed 906A
" 2101

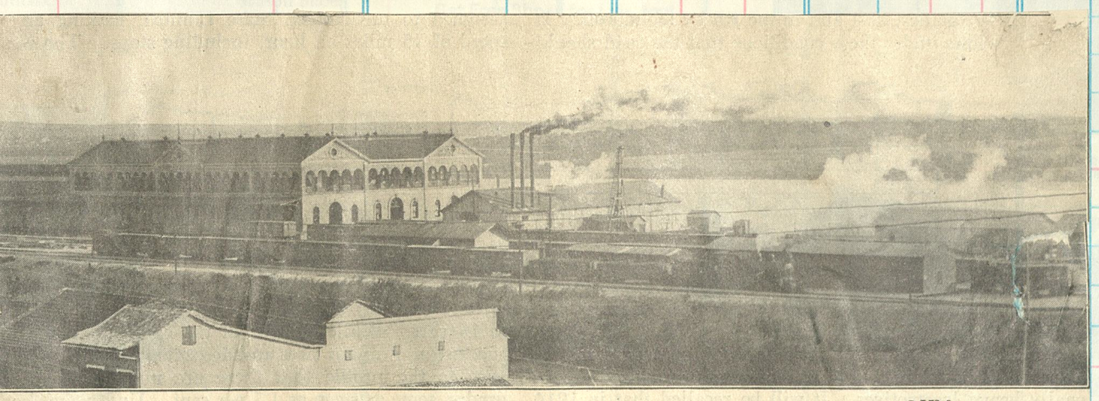


800-804 c/n 54635 Baldwin 1921

former 804



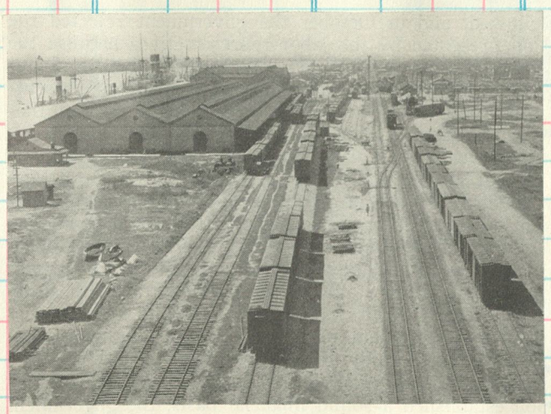
Gerald M. Best



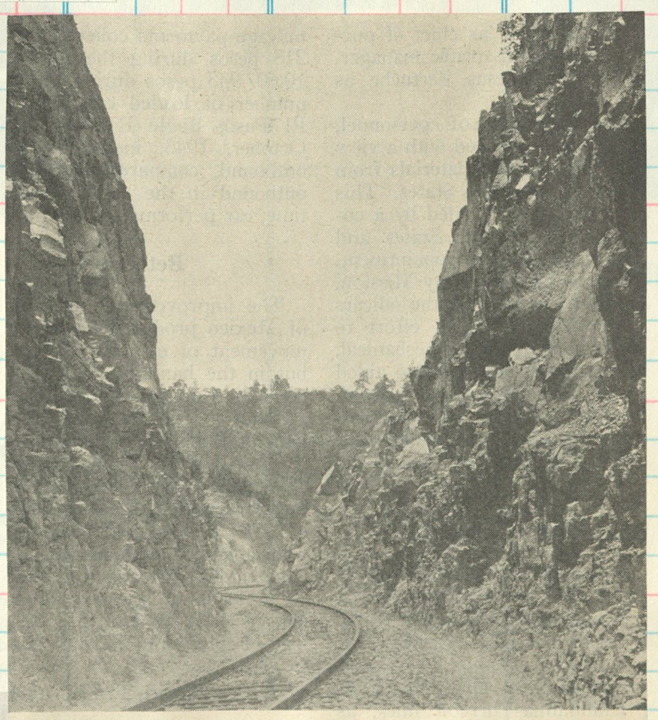
OKM

pyright, Unaerwood & Underwood

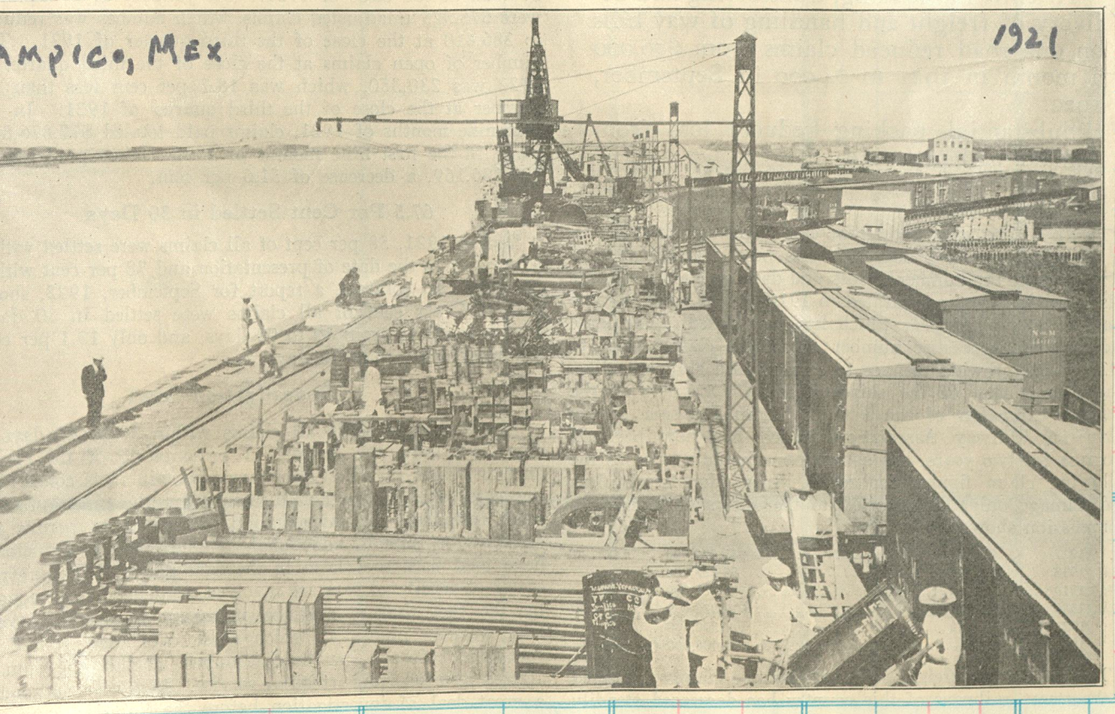
Custom House and Freight Train; National Railways of Mexico, Tampico, Mexico

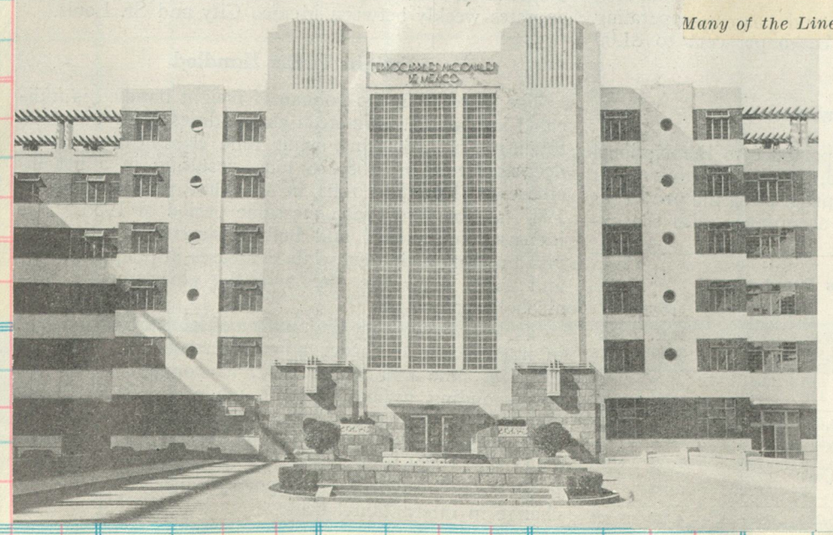


A View of the Yard at Tampico, Tam., One of the Principal Terminals of the National Railways



Many of the Lines of the Mexican Railways Traverse Rugged Country





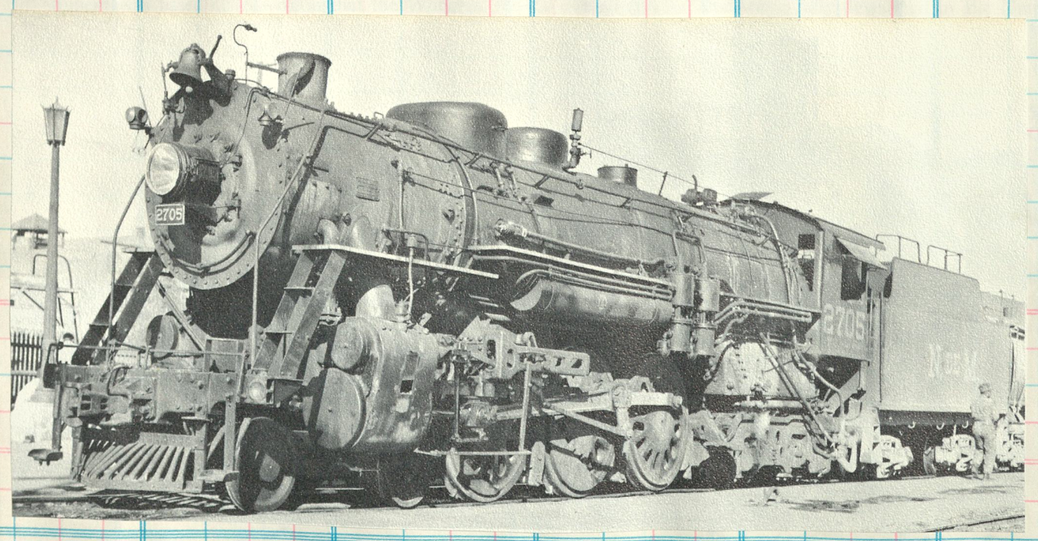
The New Colonia Hospital Was One of the Major Construction Projects Completed This Year by the National of Mexico

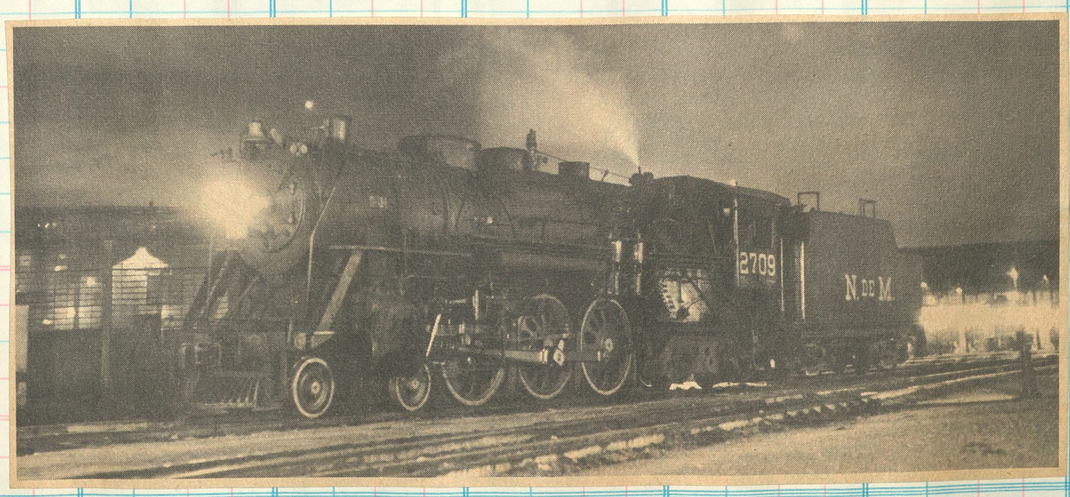
1937

Clos. No. | Sold | Am

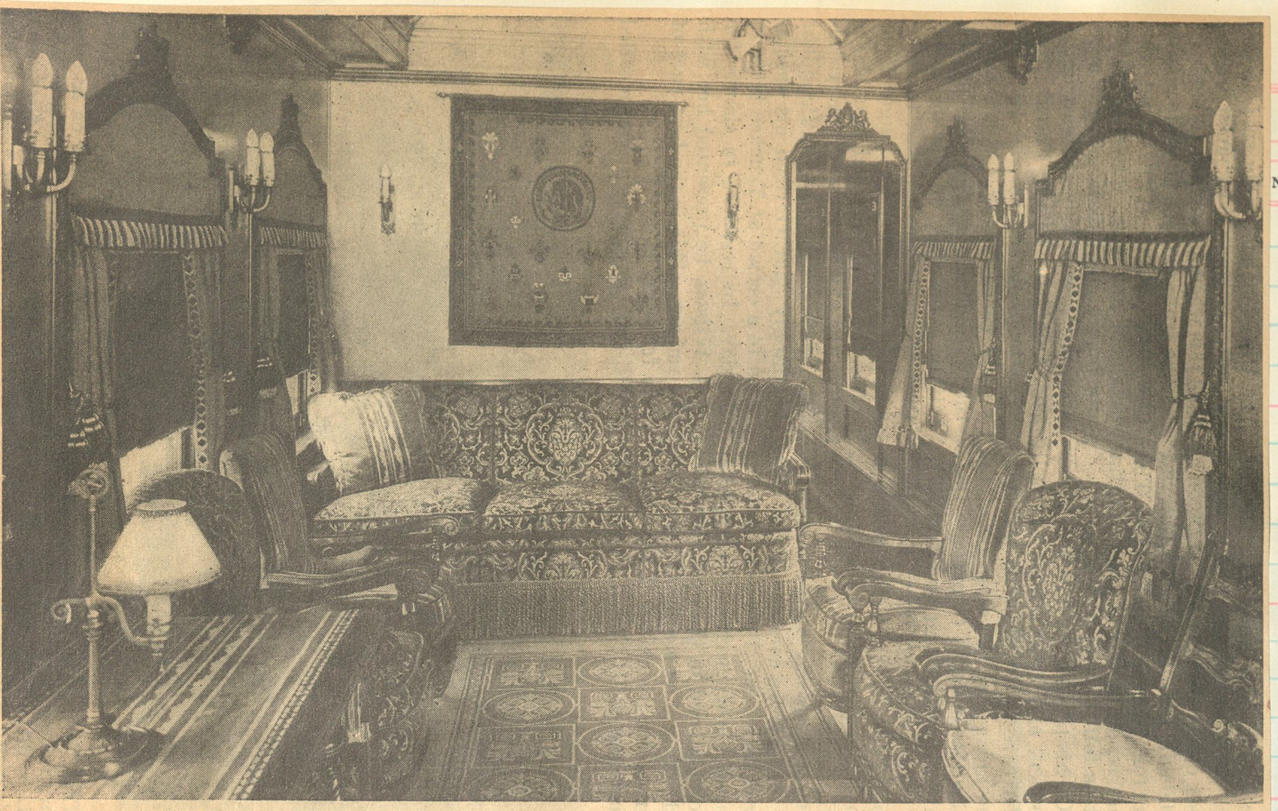
Sold | Amount | Clos.No. | Sold | Amount

One of the things to be admired about the NdeM power was that they retained the large "Sunbeam" style headlights! Here a former F.E.C. 4-8-2 [#443], now the 3304, has an easy chore with a three car local departing Aguascalientes





Two of the sturdy Hudson type delivered by Schenectady in 1937



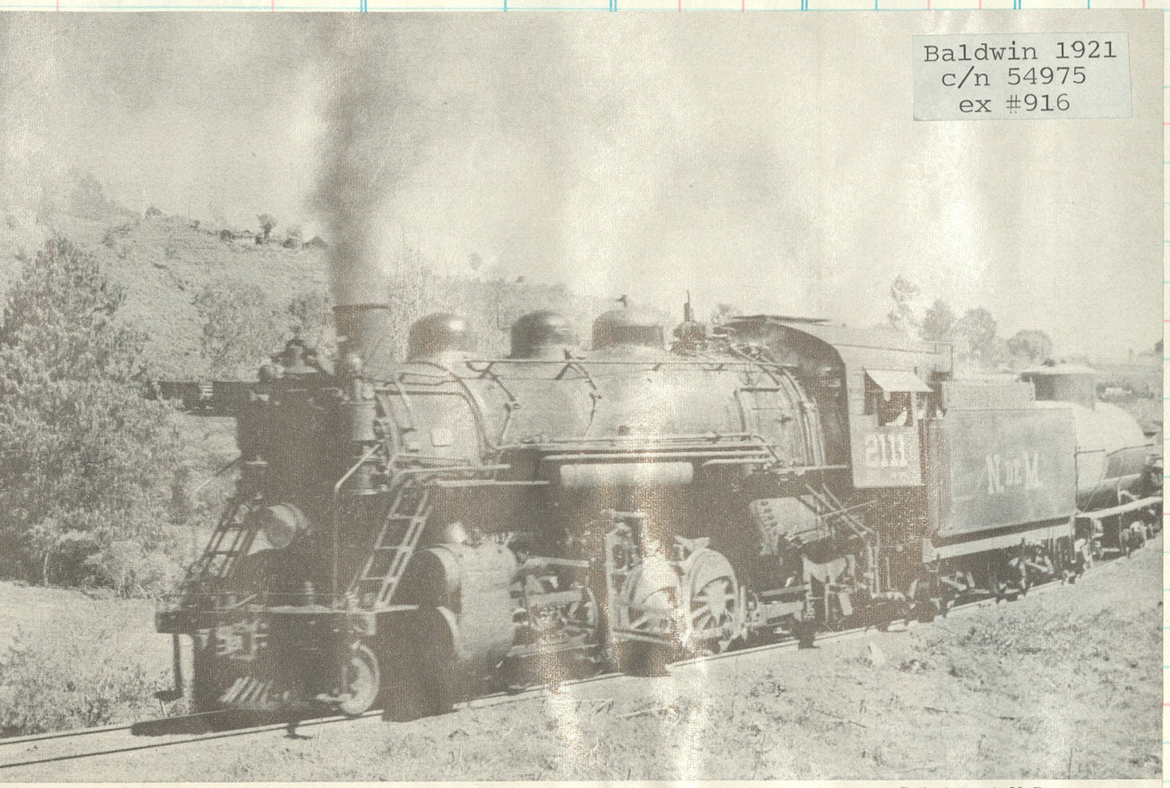
RECEPTION ROOM on train of five steel cars built by Pullman for Mexican President Calles in 1927

LAREDO BRIDGE, BETWEEN LAREDO, TEXAS, U.S.A., AND NUEVA LAREDO, MEXICO.
It comprises six spans each of 175 feet, with an approach at each end 65 feet in length.

EL PASO SOUTHERN RAILWAY.—This line owns the bridge across the Rio Grande River at El Paso and the terminal in El Paso, and is operated independently in connection with the Mexico North-Western Ry. Co. Mileage ¼ mile.

No. | Amount | Clos.No. | Sold | Amount

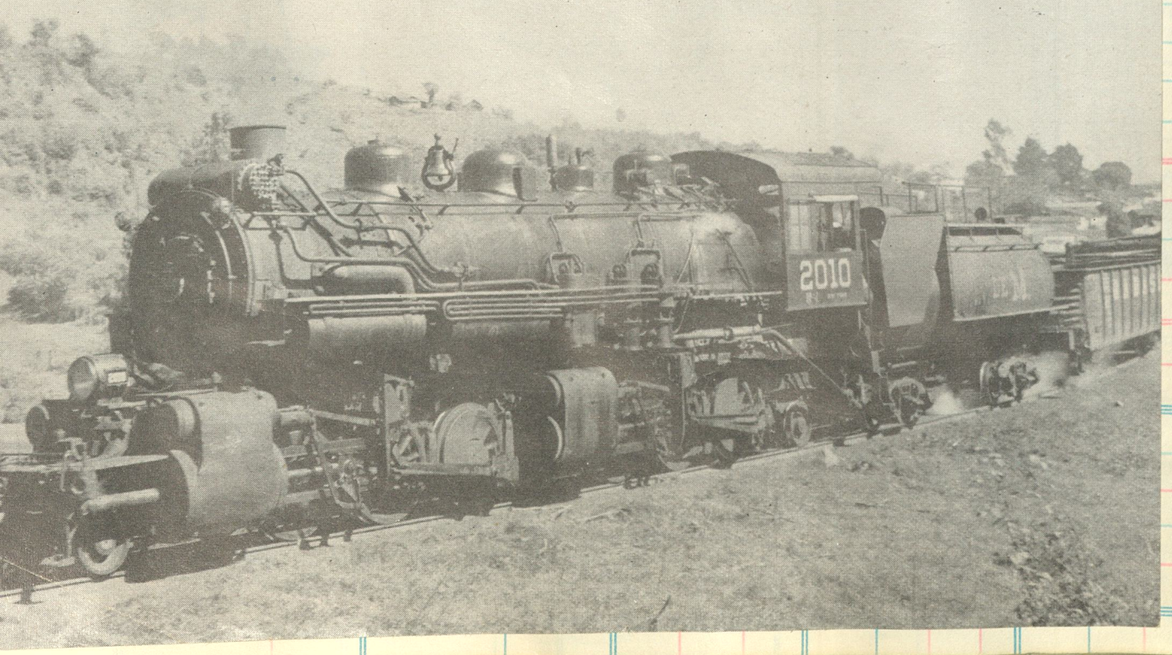
Baldwin 1921
c/n 54975
ex #916

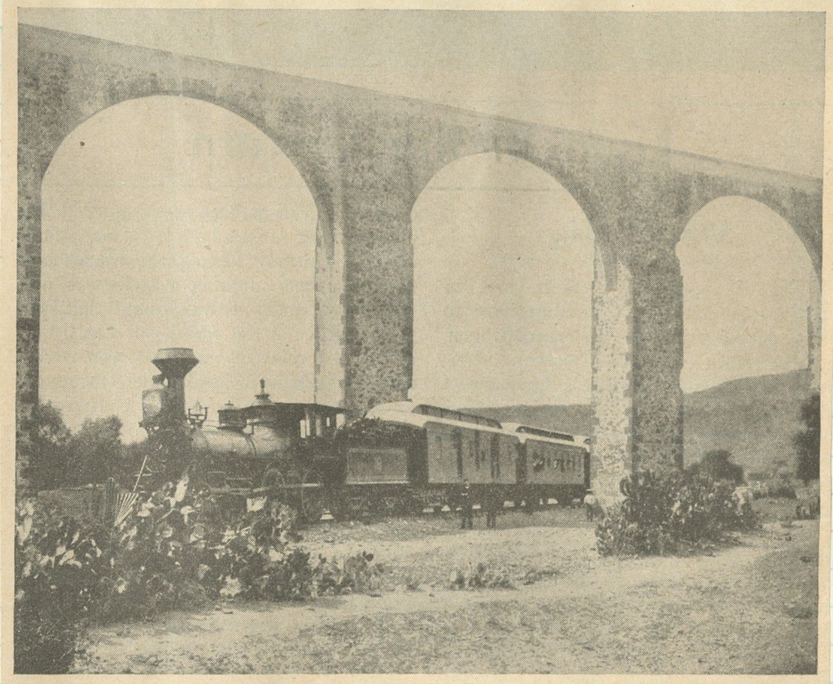


Both photos, A. M. Payne.

IN THE STYLE of good old U. S. mountain railroading of a few years ago, National Railways of Mexico 2-8-2 No. 2111 and 2-6-6-2 No. 2010 toiled mightily — in January 1957 — in the mountainous region of Veracruz, the state which lies along the sun-washed shores of the Gulf of Mexico. At San Miguel 2111 was assisted on a winding grade by 2010 (see smoke behind cab, above), a compound with extended piston rods.

Baldwin 1910
c/n 35788
ex 1107

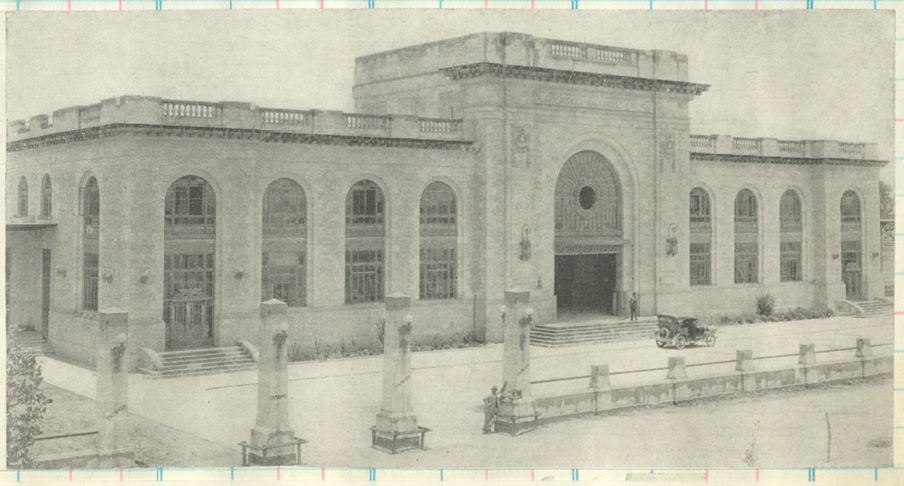




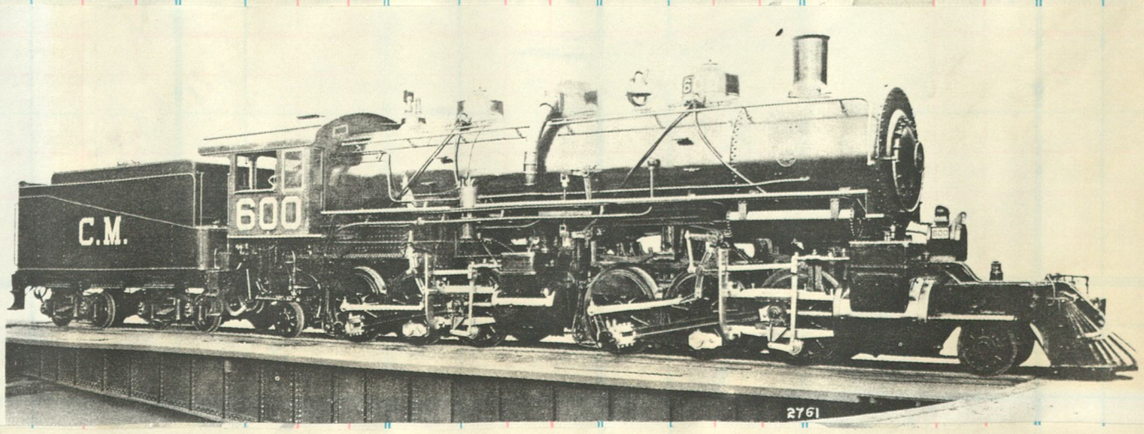
John A. Krug, White Plains, N. Y.

Mexican Central took the low road when crossing Queretaro Aqueduct, structure built by the Spaniards in 1738 to carry drinking water to the city from mountains 5 miles off. Travel-book photograph is dated by more than the *American*-type engine in the foreground: 1907 changed the *MC* lettering to *National Railways of Mexico*

Photographer Wm Jackson took this shot of Eng 18 "Hidalgo" (See Page 6) with an early consist.



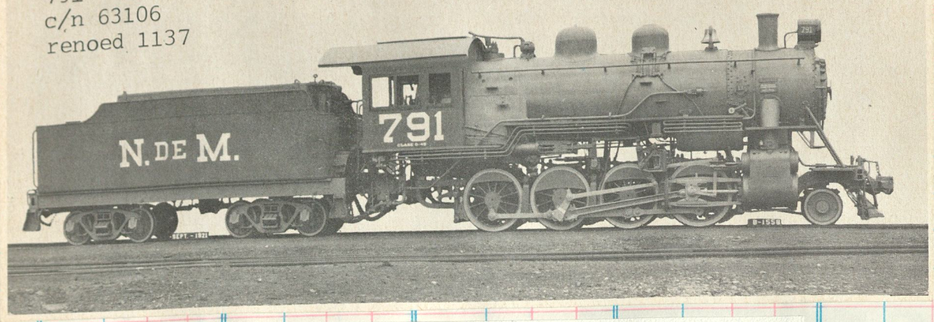
The Station and Office Building of the National Railways of Mexico at Durango, Dgo.

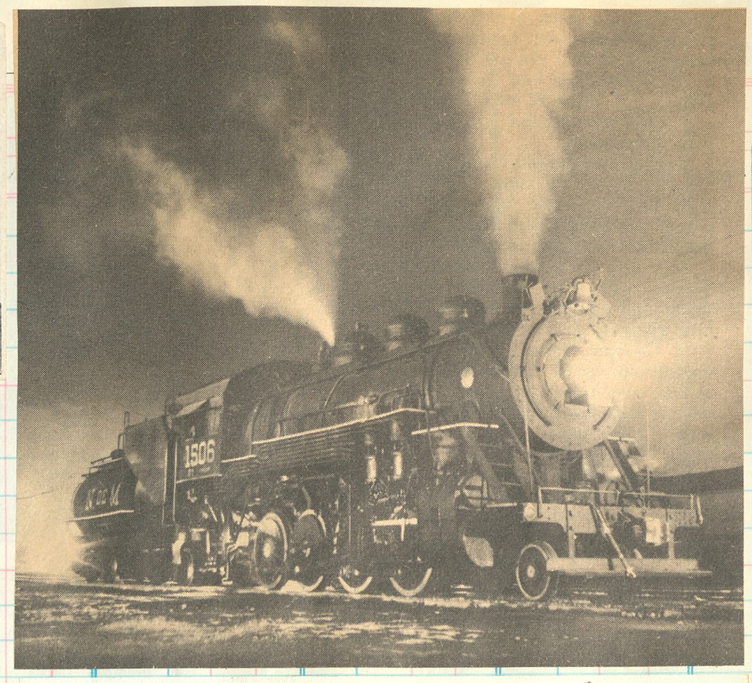


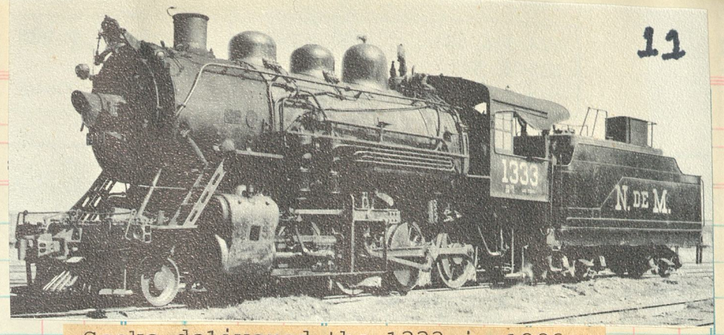
Central Mexicano 600, the first mallet to serve in Mexico. Built by Baldwin 1908 c/n 33003. To NdeM #1100, then 2003.

791 - 810
c/n 63106
renoed 1137

Brooks 1921

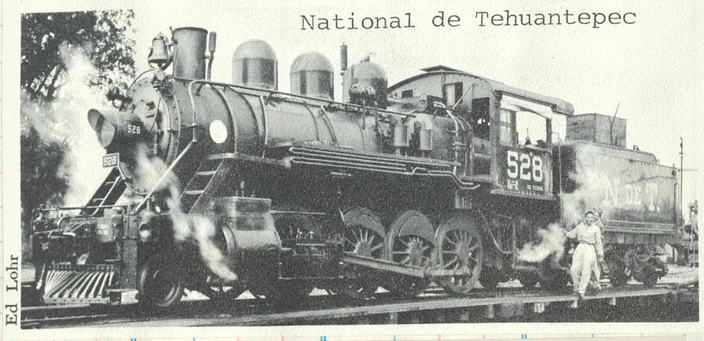






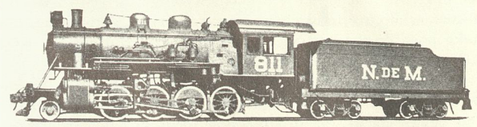
Cooke delivered the 1333 in 1906
as CM #903, to NdeM 674 c/n 41680

National de Tehuantepec



Ed Lohr

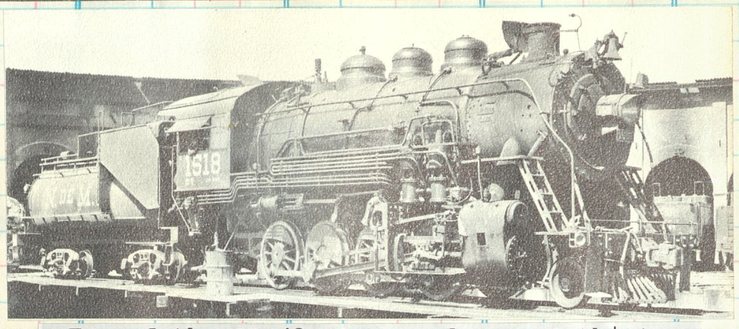
Blt by Baldwin as #65 in 1901 c/n 19785



811-830 Baldwin 1921

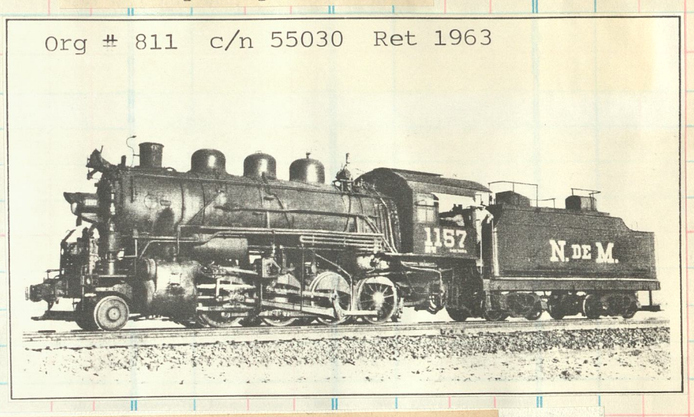
CONSOLIDATION TYPE LOCOMOTIVE
National Railways of Mexico
Cylinders, 21" x 28" Drivers, Diam., 55"
Weight, Total Engine, 174,960 lb.

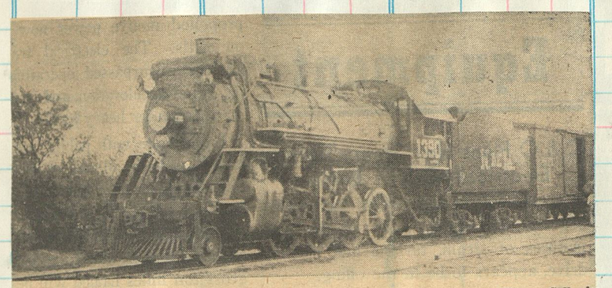
Renoed [1930] 1157-1176



Two of the GR-42 class made up of thirty
2-8-0's built by Baldwin in 1906.
1506, ex 1475, c/n 29609
1518, ex 1452, c/n 29225

Org # 811 c/n 55030 Ret 1963



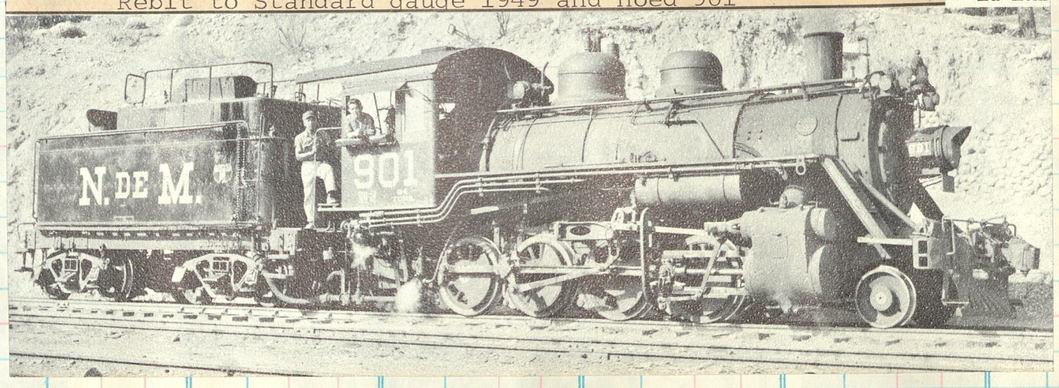


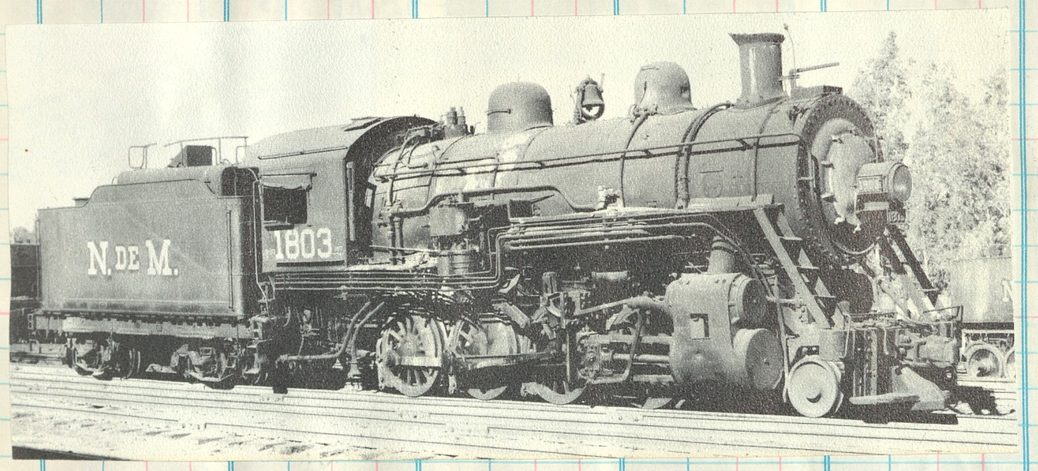
Thomas Gallardo

NATIONAL RAILWAYS OF MEXICO'S ENGINE 1390 AT VENADO, MEX.
This oil burner was being used in local freight service.

Built as narrow gauge #295 at Acambaro shops 1944
Reblt to Standard gauge 1949 and noed 901

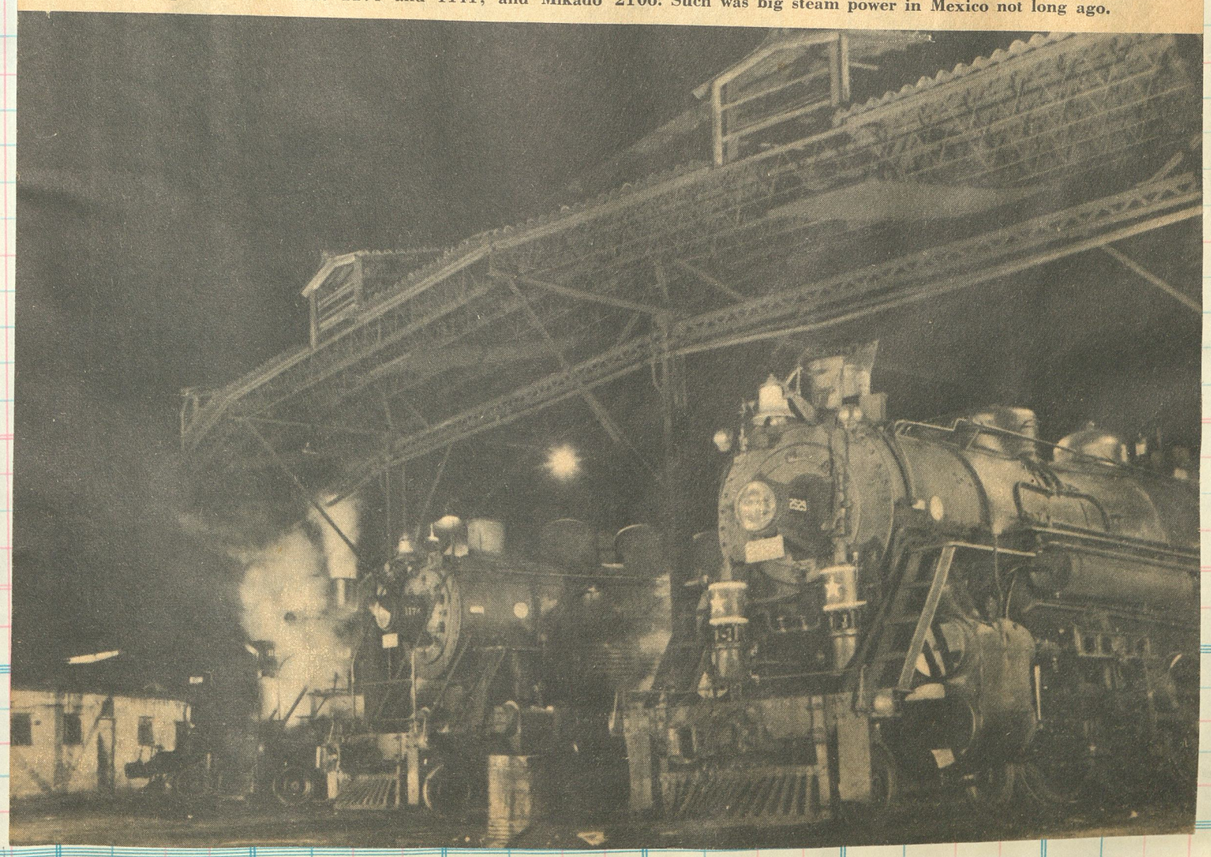
Ed Lohr

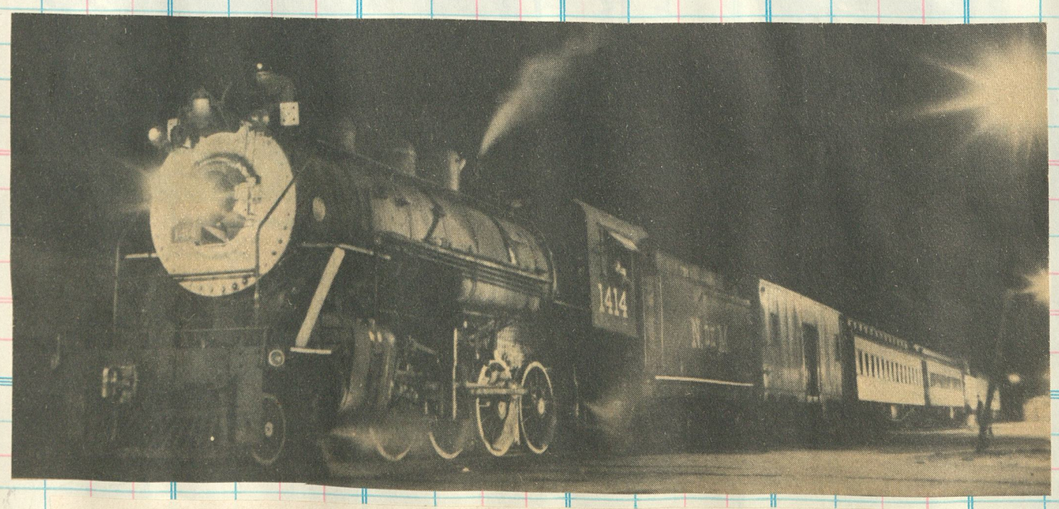




This old vagabond had a long and useful career. Built for the E.P.& S.W. by Baldwin in 1906 (c/n 28134) as #64, renoed 284. Then as S.P. 3444, S.P.deM 668, FdelP 644 and last as NdeM 1803 in 1957. Retired in June 1960!!

Acambaro enginehouse, although round, is open-sided. In this fine night shot, we see (right to left) Pacific 2529, with stars on pumps; Consolidations 1174 and 1141; and Mikado 2106. Such was big steam power in Mexico not long ago.



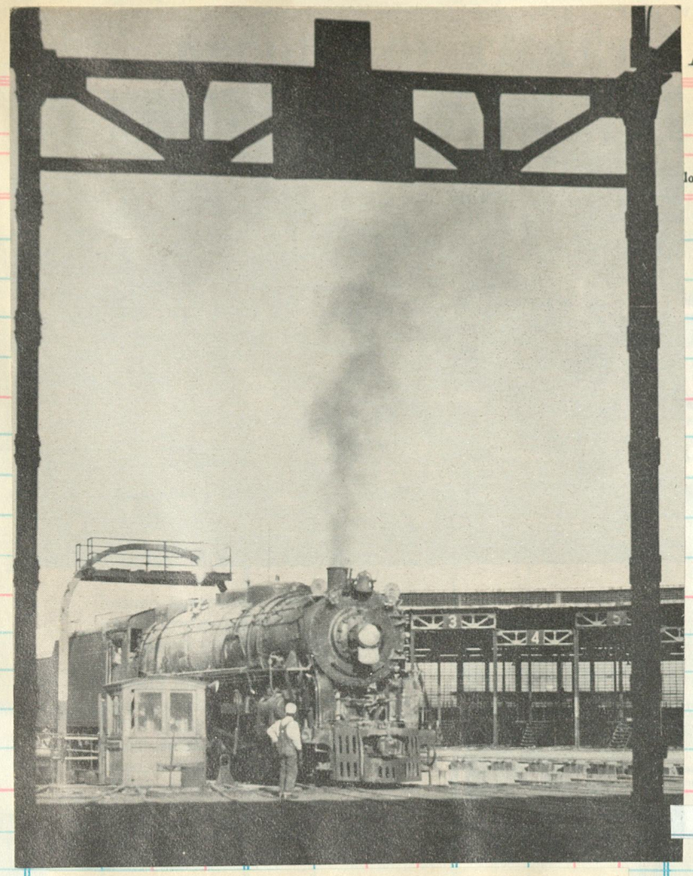


Consolidation 1414 ready to depart Irapuato with Trn 13
Blt as Mex Ntl #525 by Cooke 1903 c/n 26354 to NdeM 610

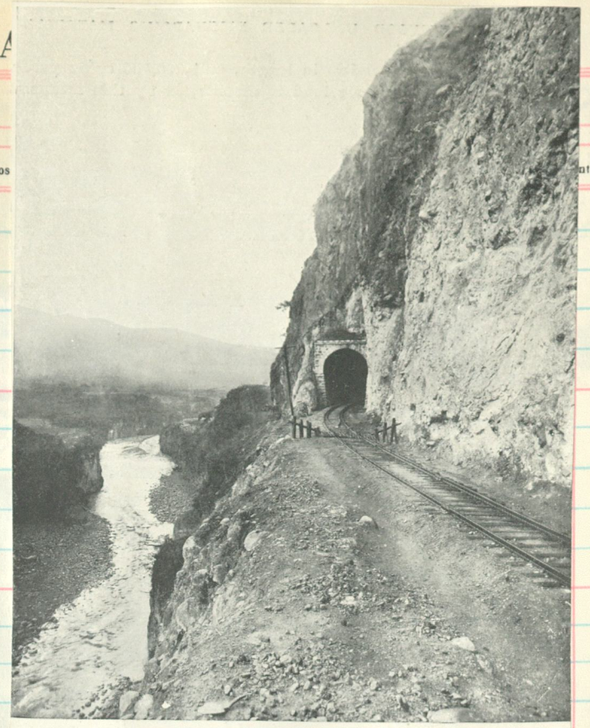
MEXICO CITY TERMINAL

by Cisco Drake

exico City's modern $12 million Union Station was opend March 8, 1959, after 13 years of planning and construction.



The 3036 on the table at the Vallee de Mexico engine terminal.

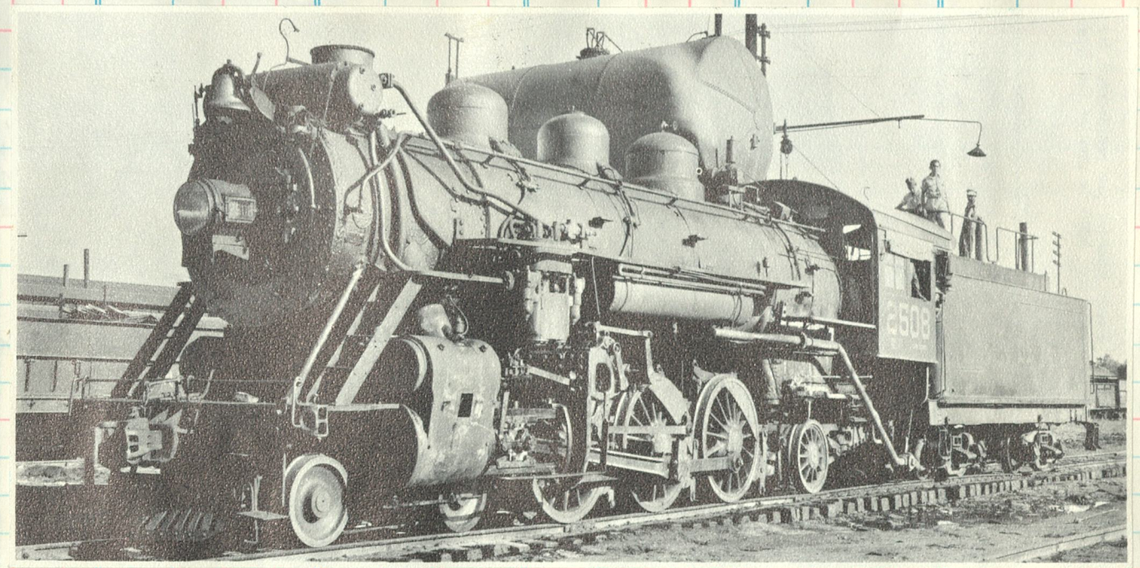


ON THE TUXPAN-COLIMA LINE.
The rails run parallel with the Tuxpan River.

On Manzanillo Br to Pacific coast

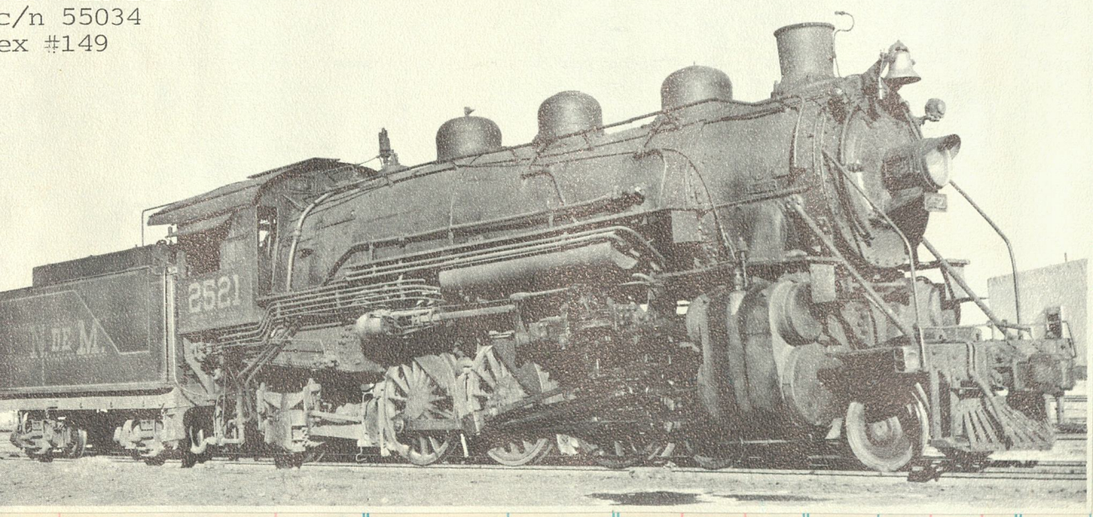
139-148 Renoed 2517

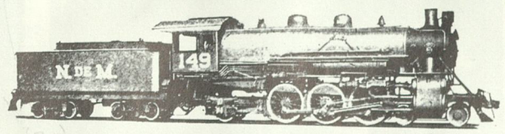
National Railways of Mexico #145, 1921, 4-6-2 type. Baldwin c/n 54944



An early Pacific was the 2508. Built for the E.P.& S.W. by Baldwin in 1903, c/n 22592, as #40. Renoed 150, sold to NdeM in 1921 and noed 130A, later 2508. Retired in 1957

Baldwin 1921
c/n 55034
ex #149

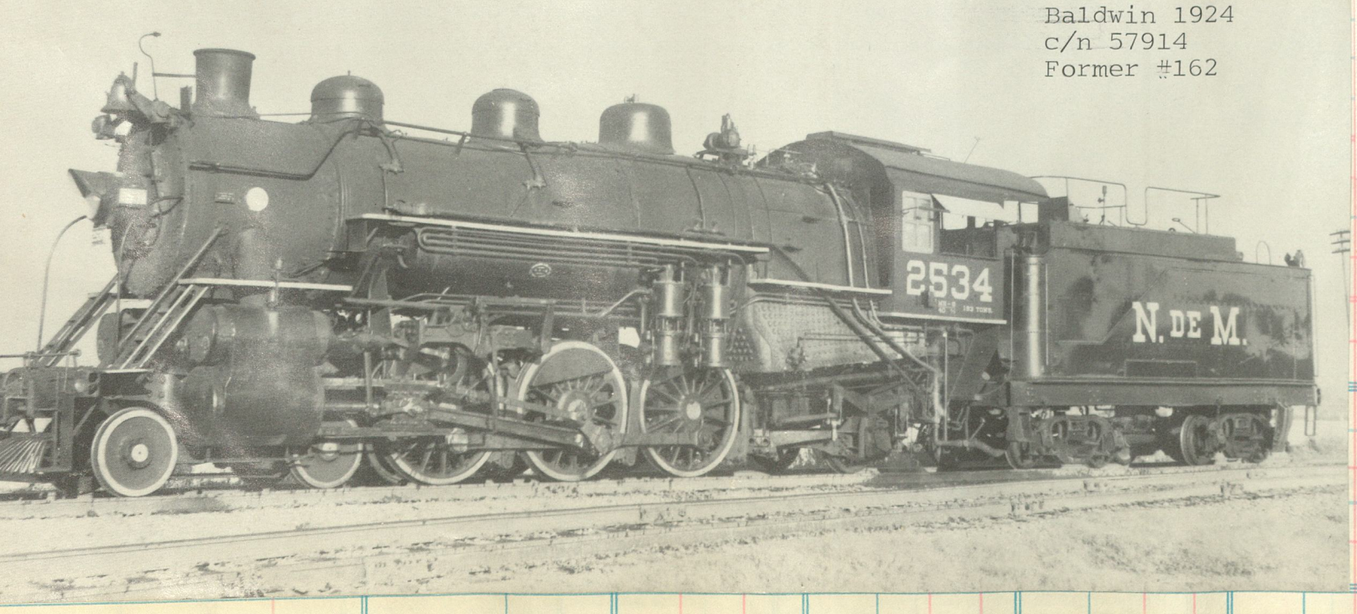


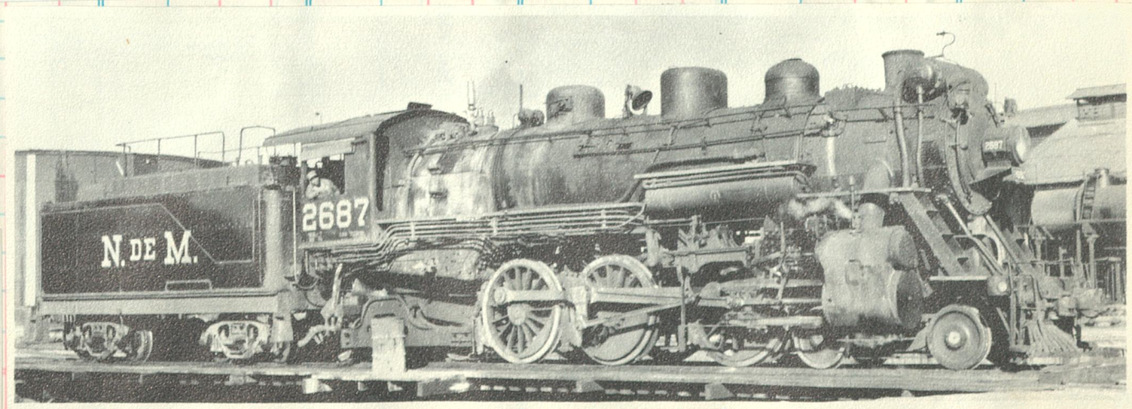


149-158 Baldwin 1921

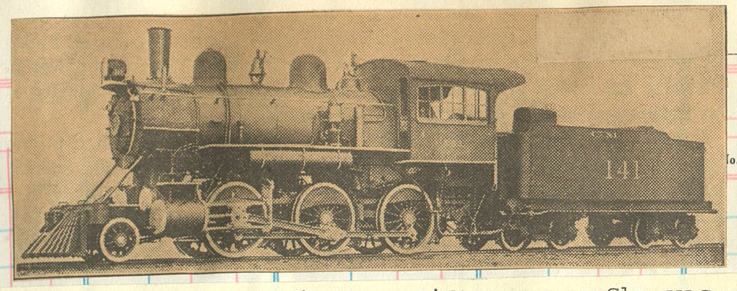
PACIFIC TYPE LOCOMOTIVE
National Railways of Mexico
Cylinders, 25" x 28" Drivers, Diam., 67"
Weight, Total Engine, 250,870 lb.

Baldwin 1924
c/n 57914
Former #162

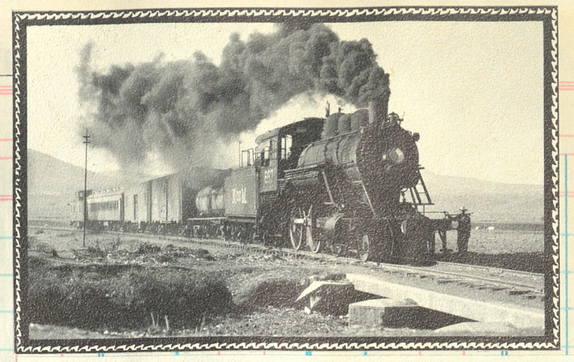




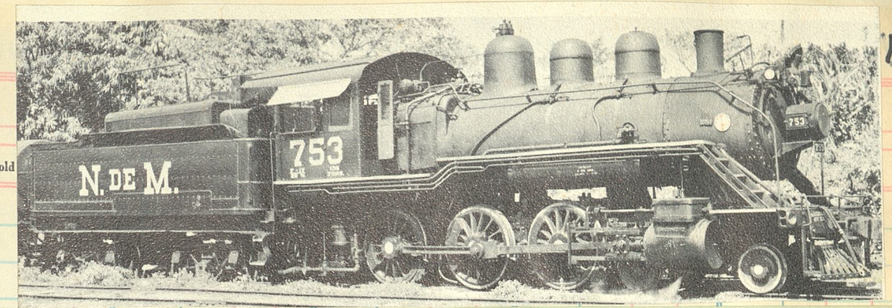
In 1928 Schenectady delivered a pair of 3 cylinder 4-6-2's. The 2687, c/n 67704, org #179.



The 141 was in service for fifty years. She was one of six delivered by Cooke in 1904 c/n 29334. Renoed NdeM 665.

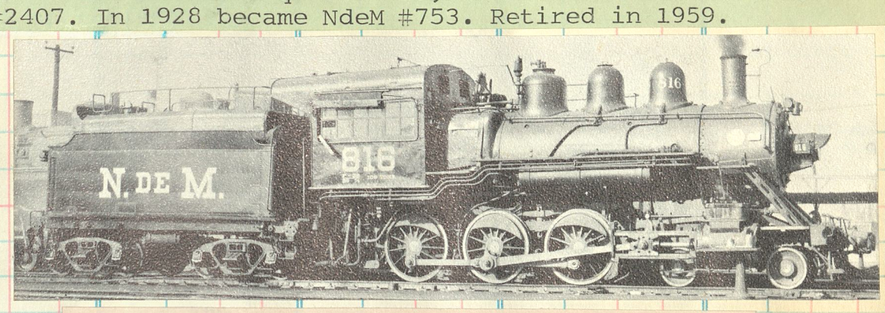


MIXED TRAIN No. 230, with mogul No. 667, on Salamanca—Jaral del Progreso branch at Valle de Santiago. February 20, 1960.

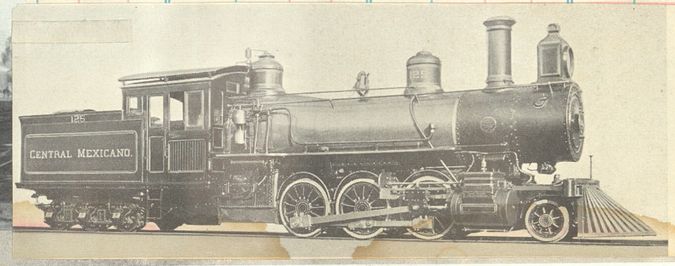


A proud OLD girl. Blt at Richmond 1893 c/n 2379 as Big Four 6207. Sold to Gen Eqt Co 1920, then to Oliver American Co #2407. In 1928 became NdeM #753. Retired in 1959.

In the early 90's, famed western photographer William Henry Jackson made an excursion over the Mexican Central. This is his special train posed near Las Crucitas on the Tampico line. Eng is the 29, 4-6-0 Baldwin 1882 c/n 6204.



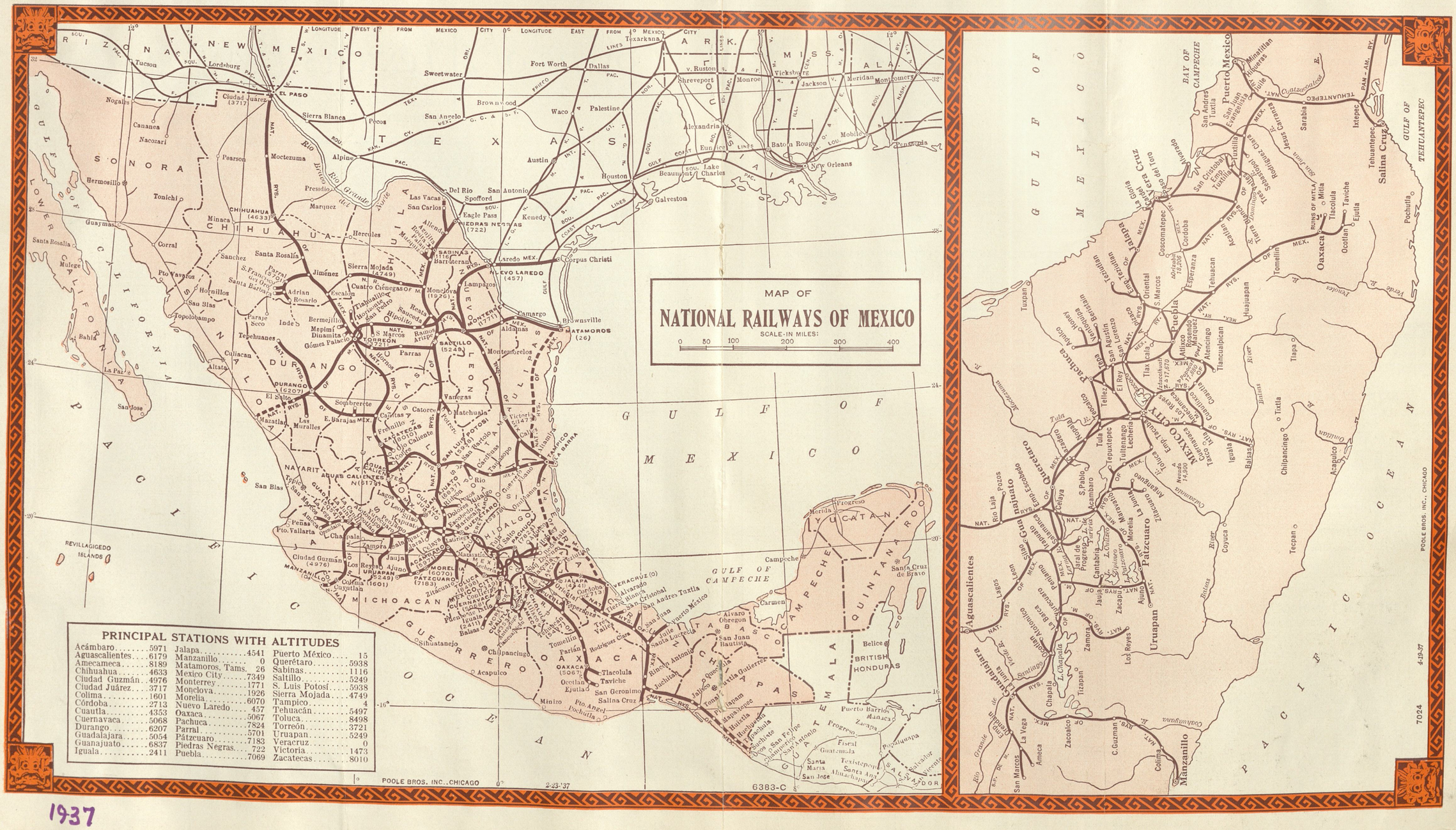
Orginal C.M. #156 from Rhode Island 1896 c/n 3119. Retired December 1960!!



Mason-Fairlie Locomotive, Built for the Mexican Central Ry. Co., Ltd.

Cylinders	20" x 24"
Drivers, diam.	49"
Steam pressure	130 lb.
Grate area	29.8 sq. ft.
Heating surface	1797 sq. ft.
Weight on drivers	93,200 lb.
Weight, total	173,900 lb.
Tractive force	21,700 lb.

Fifteen blt by Baldwin 1890, 125-139, c/n 10556



PRINCIPAL STATIONS WITH ALTITUDES

Acámbaro	5971	Jalapa	4541	Puerto México	15
Aguascalientes	6179	Manzanillo	0	Querétaro	5938
Amecameca	8189	Matamoros, Tams.	26	Sabinas	1116
Chihuahua	4633	Mexico City	7349	Saltillo	5249
Ciudad Guzmán	4976	Monterrey	1771	S. Luis Potosí	5938
Ciudad Juárez	3717	Monclova	1926	Sierra Mojada	4749
Colima	1601	Morelia	6070	Tampico	4
Córdoba	2713	Nuevo Laredo	457	Tehuacán	5497
Cuautla	4353	Oaxaca	5067	Toluca	8498
Cuernavaca	5068	Pachuca	7824	Torreón	3721
Durango	6207	Parral	5701	Uruapan	5249
Guadalajara	5054	Pátzcuaro	7183	Veracruz	0
Guanajuato	6837	Piedras Negras	722	Victoria	1473
Iguala	2411	Puebla	7069	Zacatecas	8010

1937

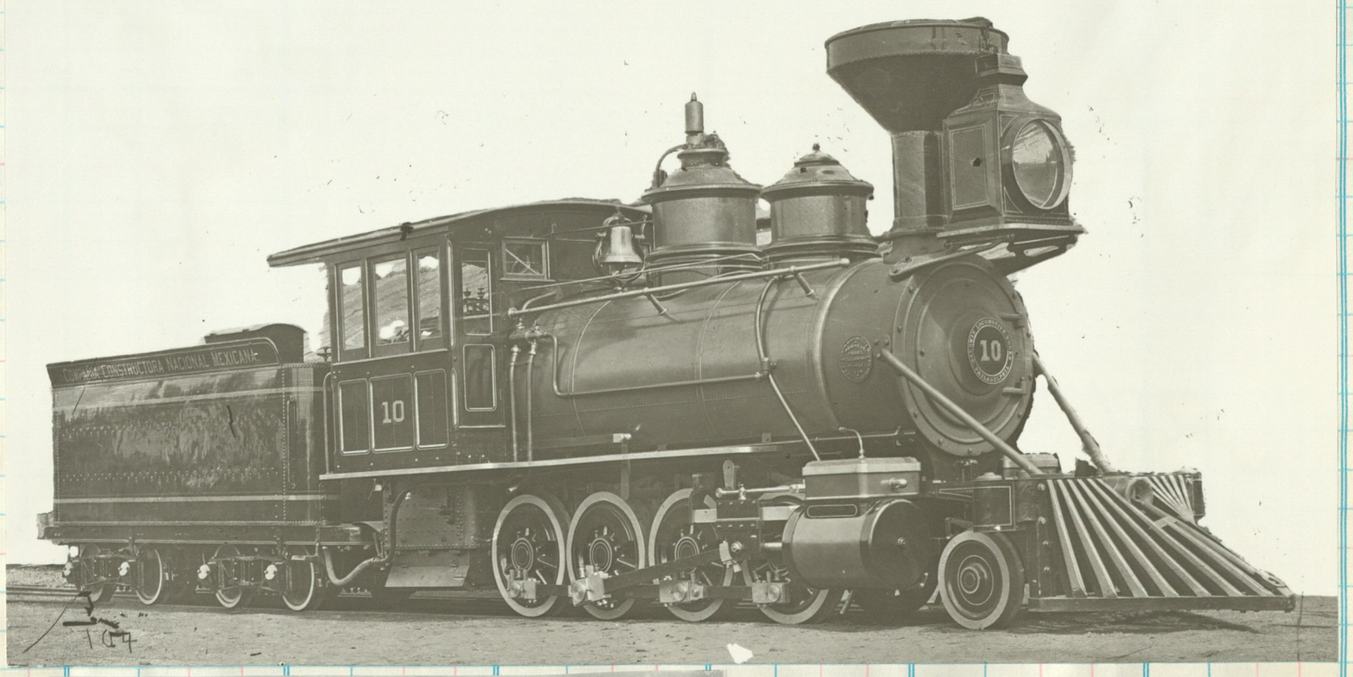
ELLER
DATE
ORM DESTINATION Am

Clos. No. Sold Amount Clos.No. Sold Amount

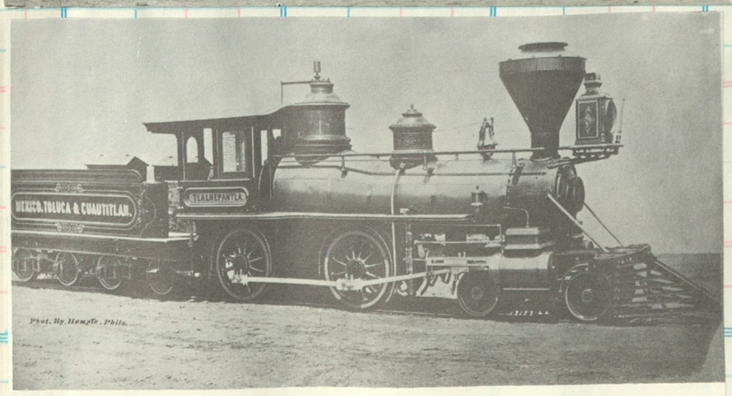
Narrow Gauge

Nothing in railroading was so captivating as the narrow gauge. Here three little mustangs are lined up at Cuautla ready for another day's work. L to R (all are 2-8-0's) NdeM #269, ex MN #194, from Baldwin 1921 c/n 55053; FCI 73 Kerr, Stuart & Co 1904 c/n 819 and FCI 70 built at Schenectady in 1899 c/n 5213.

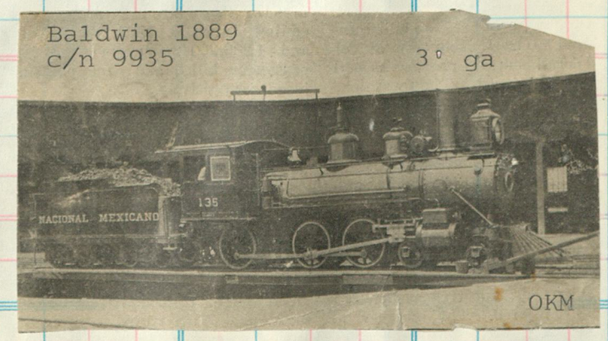
One of the numerous three foot gauge 2-8-0's ordered from Baldwin by Gen. Wm. Palmer for the Compania Constructora Nacional Mexicana in building the Nacional Mexicano 840 miles from Laredo to Mexico City. #10 was erected in 1881, c/n 5614, and was rebit about 1902 to standard gauge noed 225.



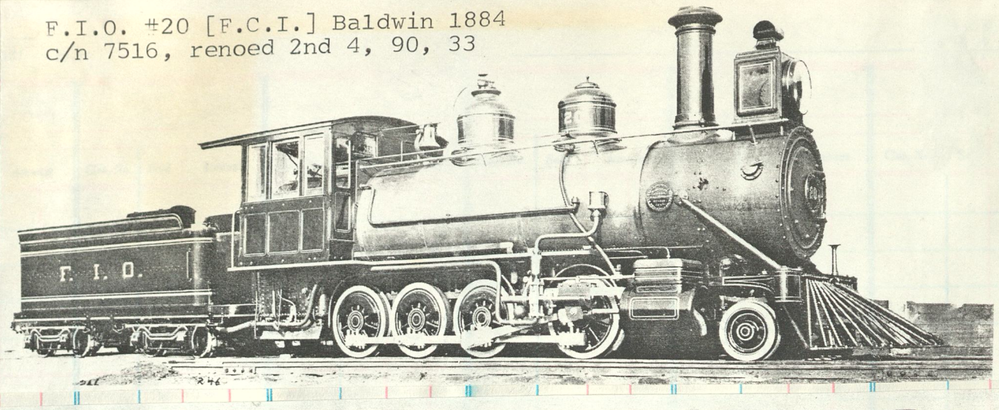
It's 7:20 AM and Trn #4 departs the San Lazaro station (Mexico City) behind engine FCI 73, before rebuilding, on the five hour run to Puebla.



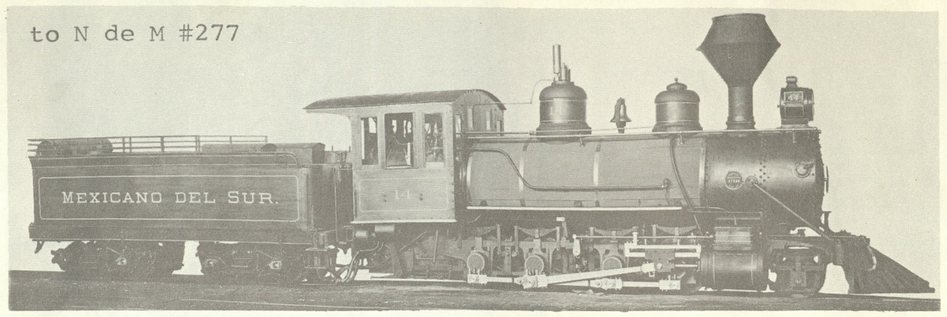
Mexico, Toluca & Cuautitlan "Tlalnepantla", 1874, 4-4-0 type.



F.I.O. #20 [F.C.I.] Baldwin 1884
c/n 7516, renoed 2nd 4, 90, 33

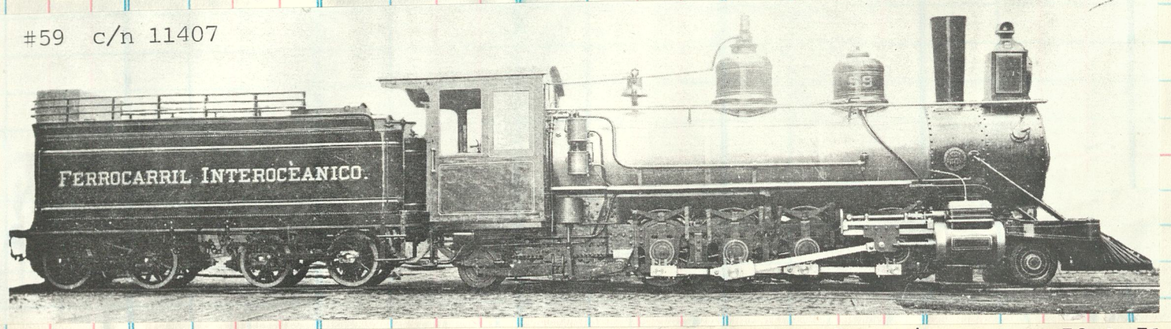


to N de M #277

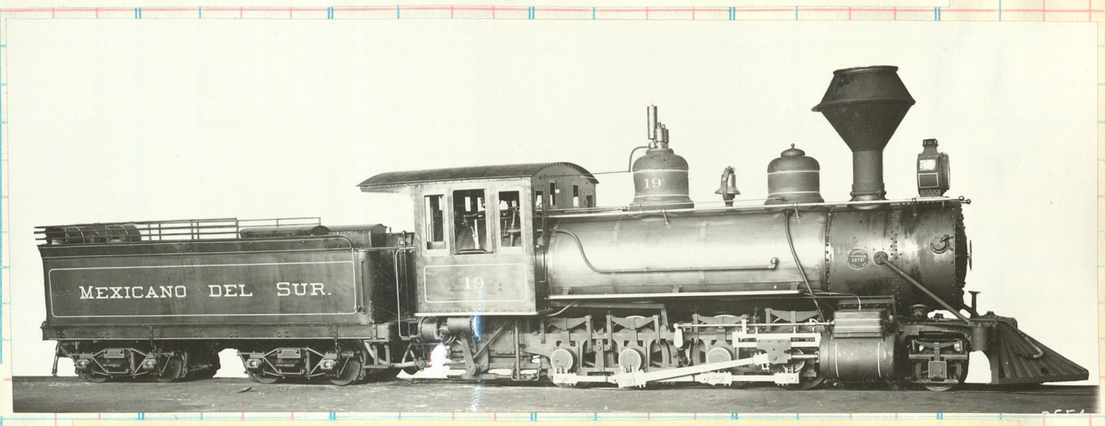


Mexicano del Sur #14, 1906, narrow gauge, 2-8-0 type. Baldwin c/n 27599

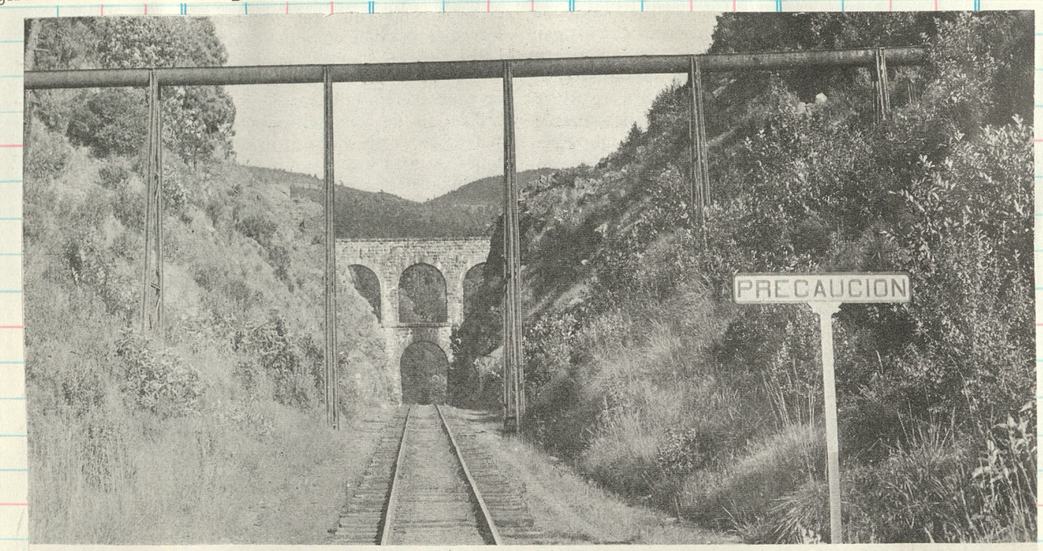
#59 c/n 11407



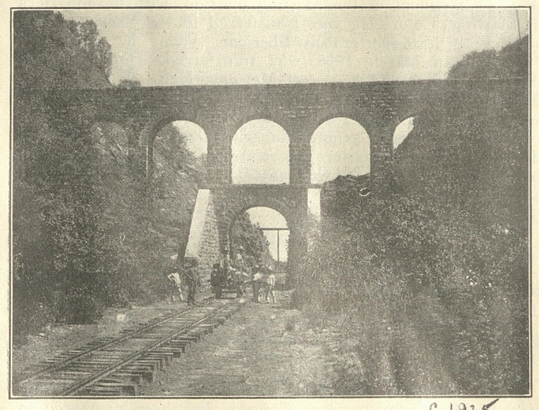
The FIRST 2-8-2 type! In October 1890 Baldwin delivered two such engines, nos 50 & 51. Eight additional engines blt November 1891 #52-#59. All rebuilt as 2-8-0's in 1892.



#19 Baldwin 1908 c/n 32731 Renoed Mdels 121, NdeM 282



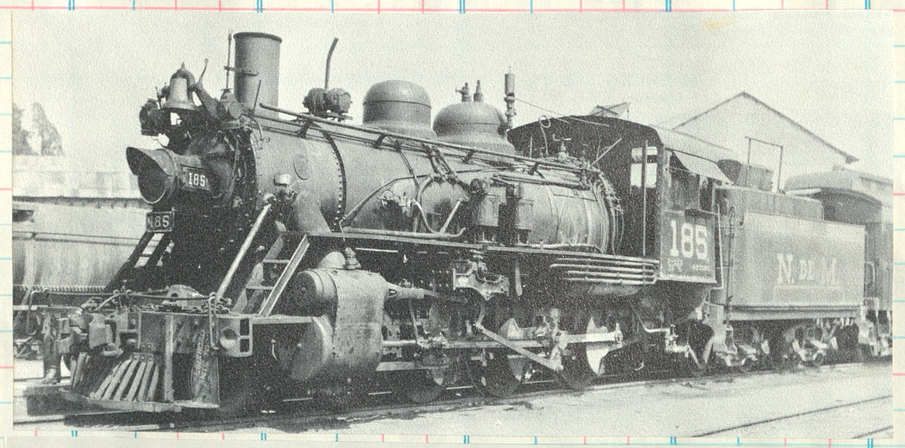
A View on the Laredo-Mexico City Main Line Near Queretaro. c 1935



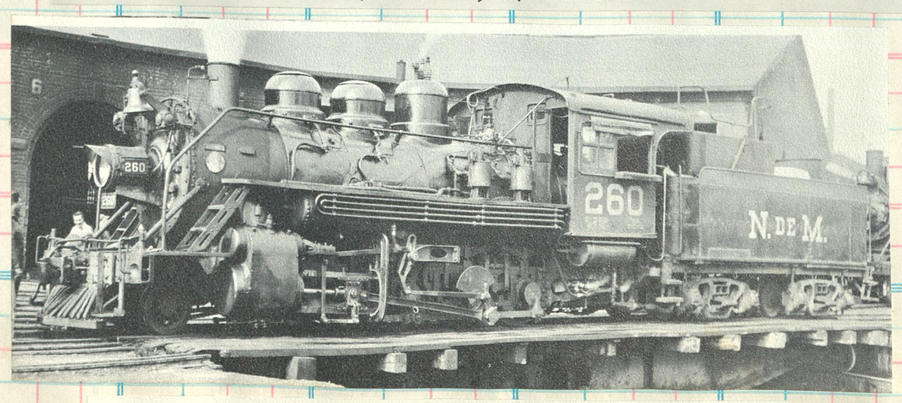
On the Tampico Branch of the National Railways of Mexico c 1925

A Decorative Narrow-Gauge Diner Installed on Oaxaca Line This Year 1938

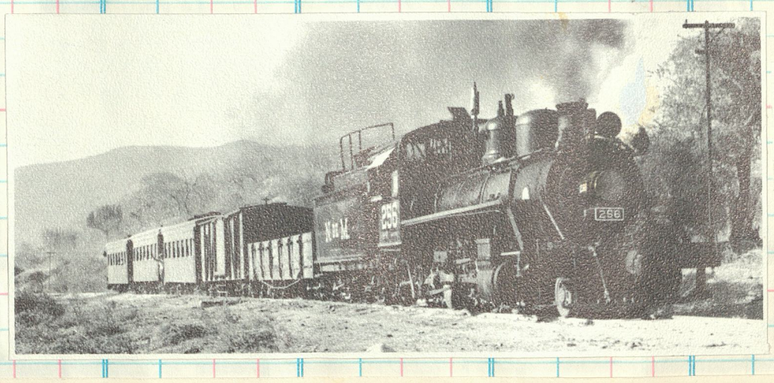
From Morton pg 104



Baldwin delivered ten 4-6-0's in 1924 noed 217-226 later renoed 181-190. #185, ex 221, c/n 57942

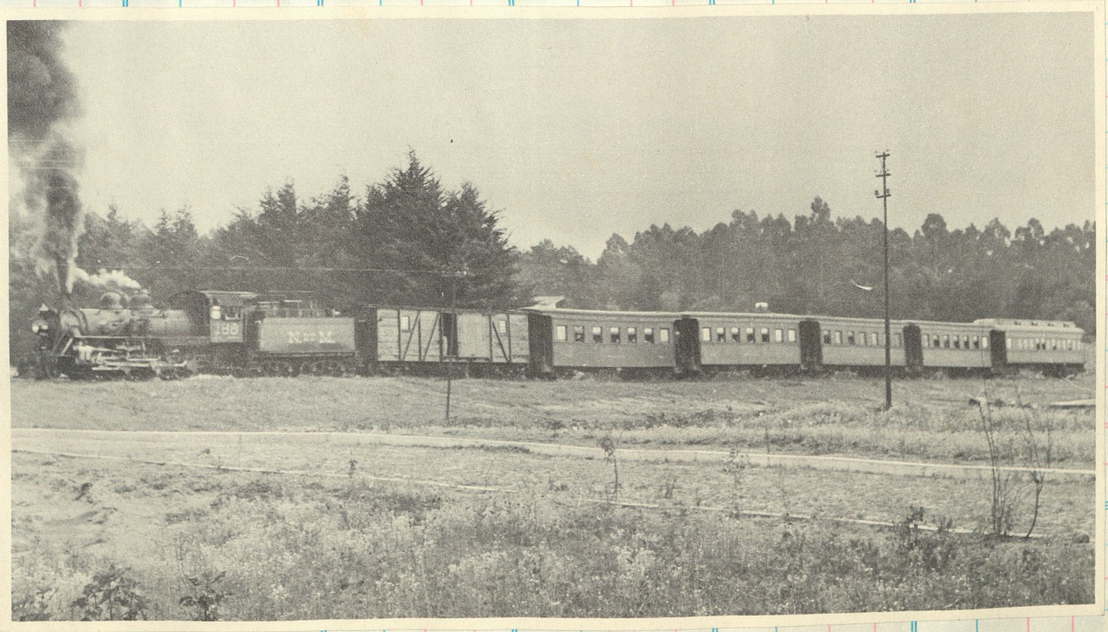


Blt as FCNM #185 by Baldwin 1900 c/n 17986



BALDWIN BUILT THEM TO LAST! Outshopped in 1899, No. 256 is here doing the honors on the Puente de Ixtla - Cuautla mixed near Yautepec, Morelos.

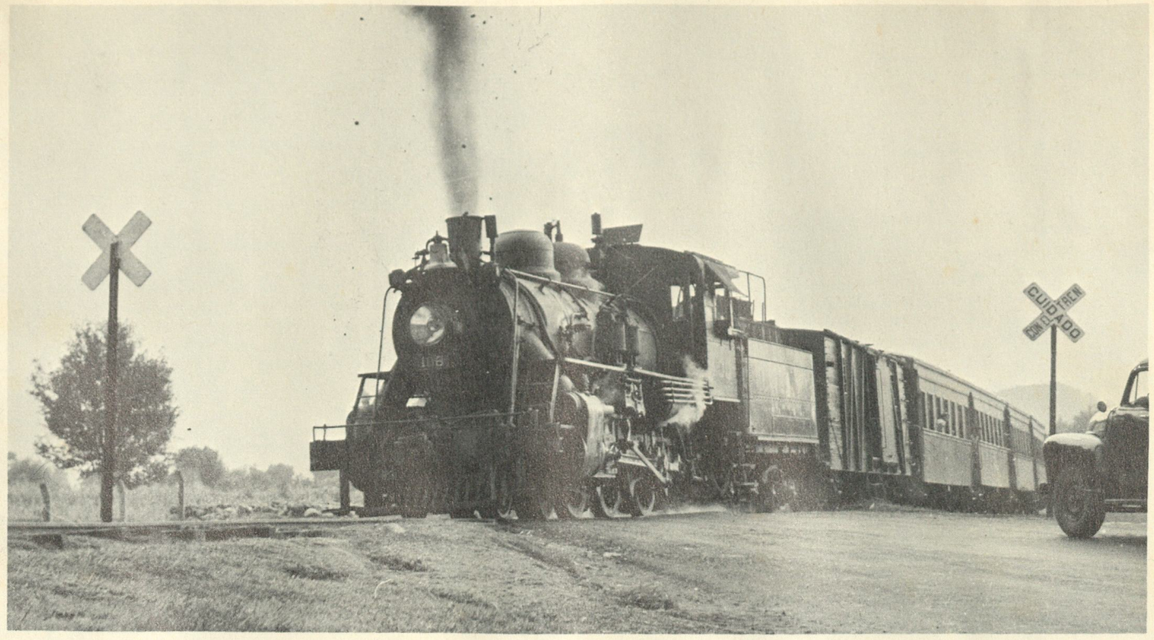
Blt as FCNM #168 in March 1898 c/n 15790 Retired March 1965!



A passenger consist departs Ozumba behind the 186

A National Railway of Mexico Narrow Gauge Train arrives at Ozumba from Mexico City in Summer of 1963.

Ed Wojtas



National Railway of Mexico guage train leaves Ozumba on its way to Mexico City. Summer 1963. Throwing a plume of smoke into the air, the narrow guage, steam-powered train rolls across a highway crossing.

Ed Wojtas

188

Ten wheeler #188 with an interesting passenger consist of the Mexico City to Ozumba Trn #128 near Chalco. The 17,343' Mt. Ixtaccihuatl forms a backdrop. #188 was built in 1924 by Baldwin, c/n 57963, as #224.

LINEUP about 2:45 p.m. July 30, 1959, at Cuautla station on the National Railways of Mexico narrow gauge includes, left to right: 2-8-0 254 ready to depart light; 2-8-0 265 on a freight for Mexico City; 2-8-0 73 (built in England in 1904) on mixed train 253 for Puente de Ixtla; and 2-8-0 262 on passenger train No. 110 for Puebla.

F C I 2-8-0
Schenectady 1899
c/n 5213

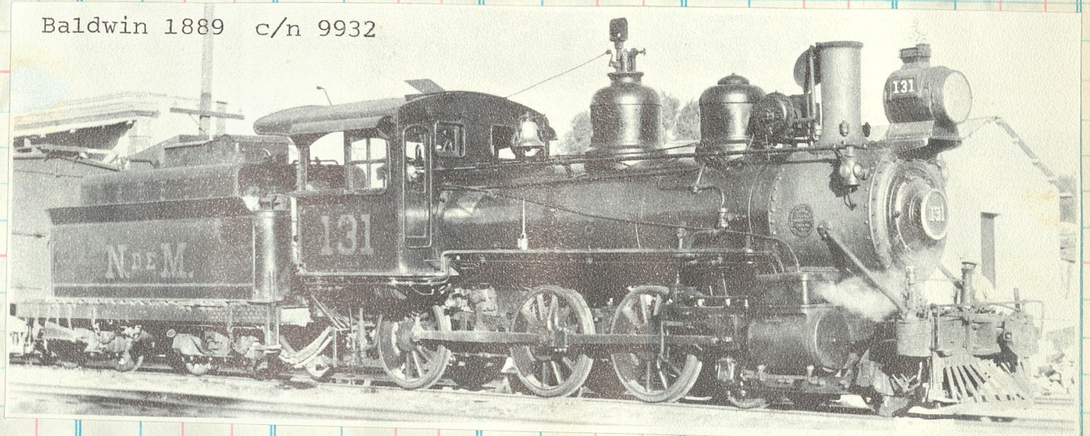
A BIT MORE MECHANICAL WORK, and No. 70 on train No. 253, will be ready to depart from the ancient Aztec town of Cuautla for the 81 kilometer run to Puente de Ixtla.

Interoceanico [FCI] 2-8-0 blt by Schenectady 1899 c/n 5209

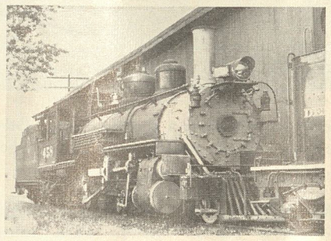
c/n 68740

In 1936 Schenectady delivered five 2-8-0's to the Interoceanico [FCI] Noed 300-304, renoed 290-294. Reblt to S.G. and noed 902-906.

Baldwin 1889 c/n 9932

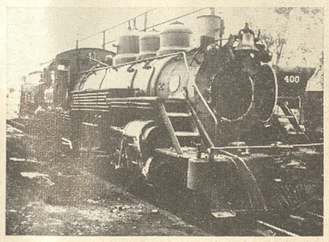


FROM 3' TO 4' 8 1/2"



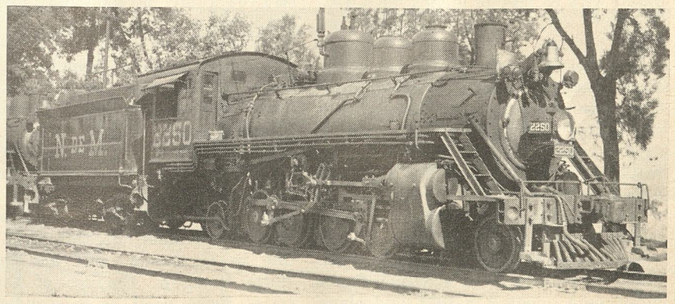
R. H. Kindig.

MUDHEN 458 rested in the shade in Gunnison, Colo., on June 4, 1940, a few years before her sale to Mexico and subsequent mechanical metamorphosis.



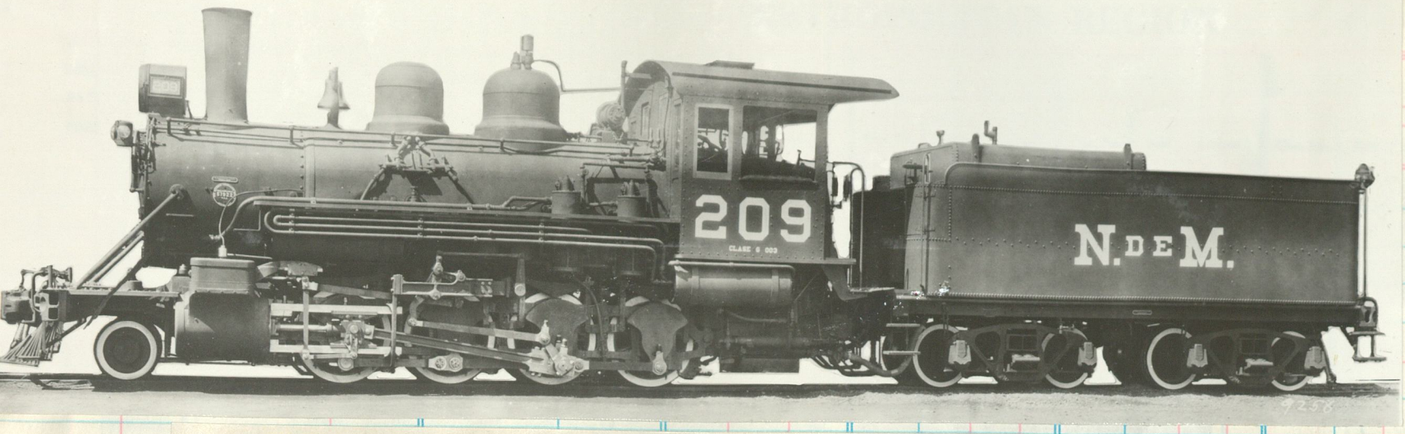
Everett L. DeGolyer Jr.

N DE M 400 (ex-Rio Grande 458) has her inner smokebox door open in this maintenance view taken after her purchase by the system in September 1942.

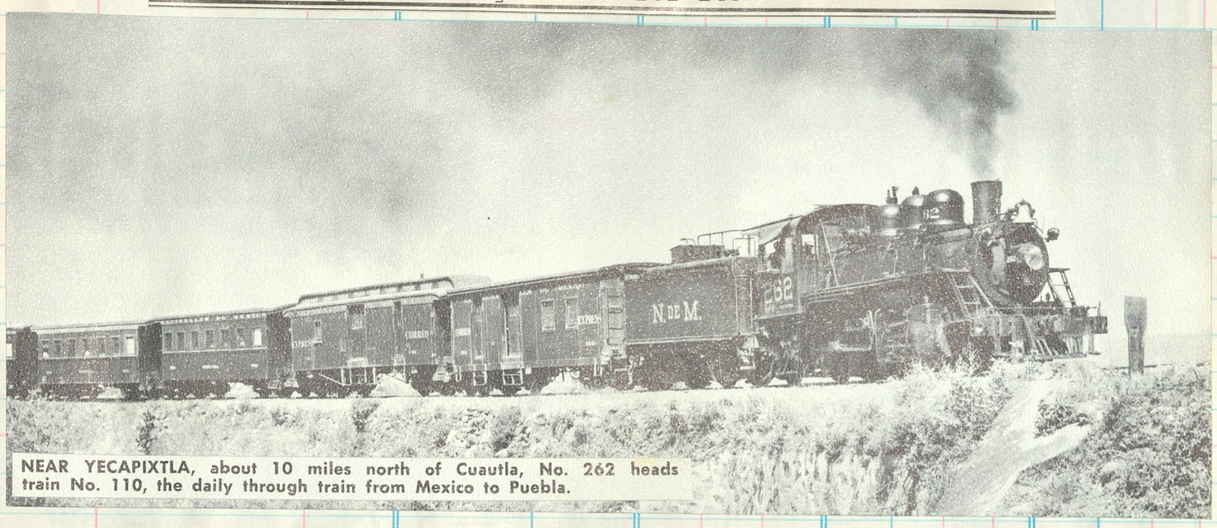


Ed Lohr.

MORE than half a century after her construction as a narrow-gauge Baldwin compound for the Rio Grande, National Railways of Mexico 2250 (ex-D&RGW 458, ex-NdeM 400) is pictured at Maravatio as a standard-gauge engine. The ageless Mikado continues in active service in 1961, could conceivably have a 60th birthday.

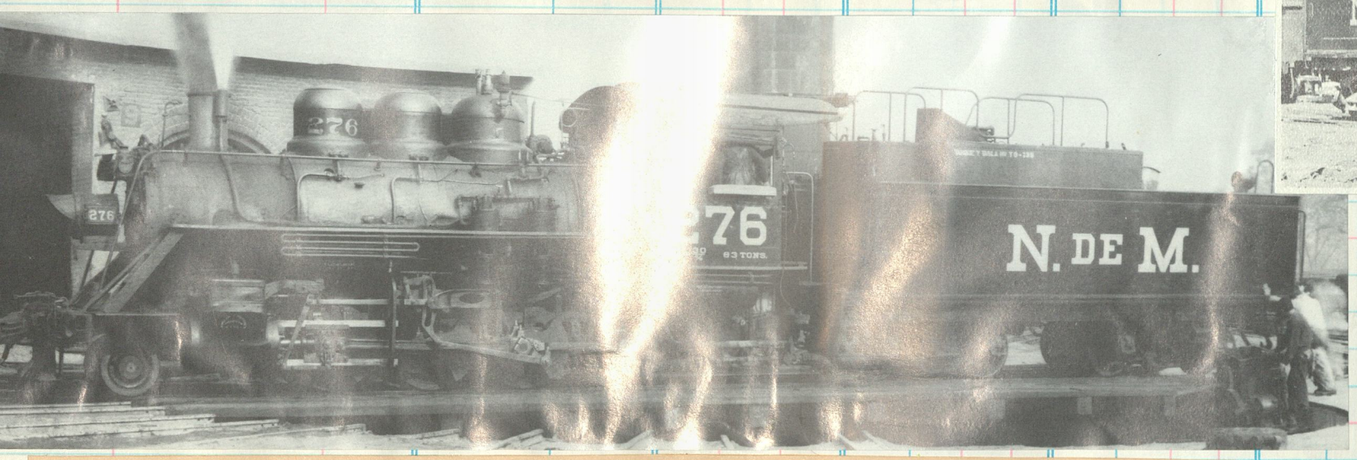


In 1924 Baldwin delivered eight husky 2-8-0's noed 209-216 [c/n 57922] Renoed 282-289

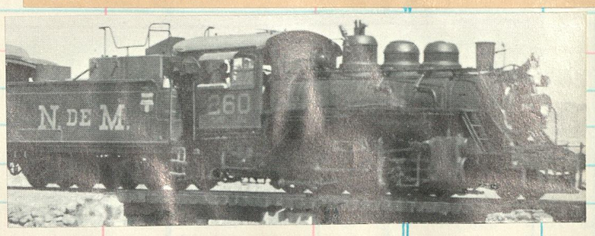


NEAR YECAPIXTLA, about 10 miles north of Cuautla, No. 262 heads train No. 110, the daily through train from Mexico to Puebla.

#262, org #187, c/n 55023



Twenty outside frame Consolidations ordered from Baldwin in 1921 numbered 187-216. All were renoed in 1930 as 262-281. Of the series two were rebit to s.g., two were sold to the C&Z, others remained in service into the later Sixties.



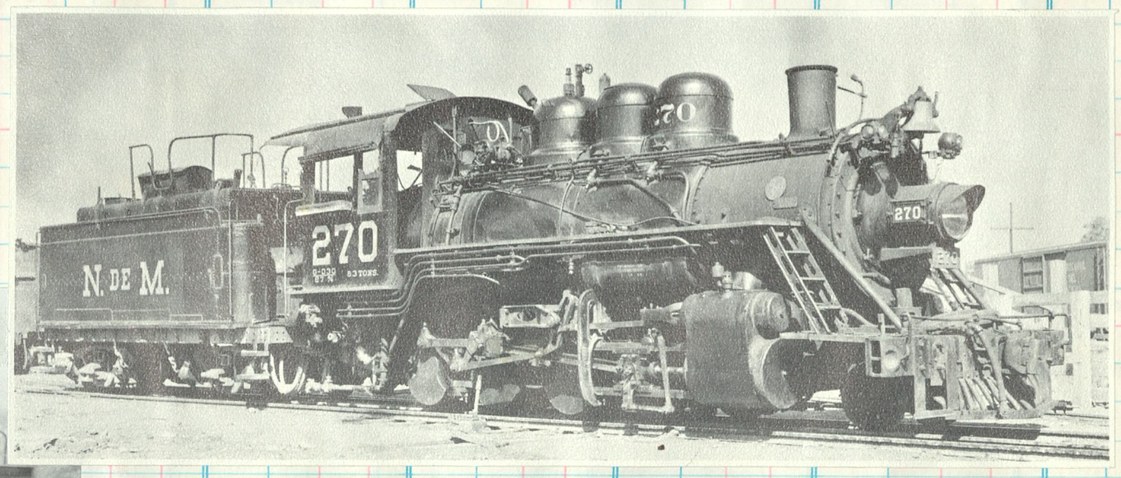
Total

Total

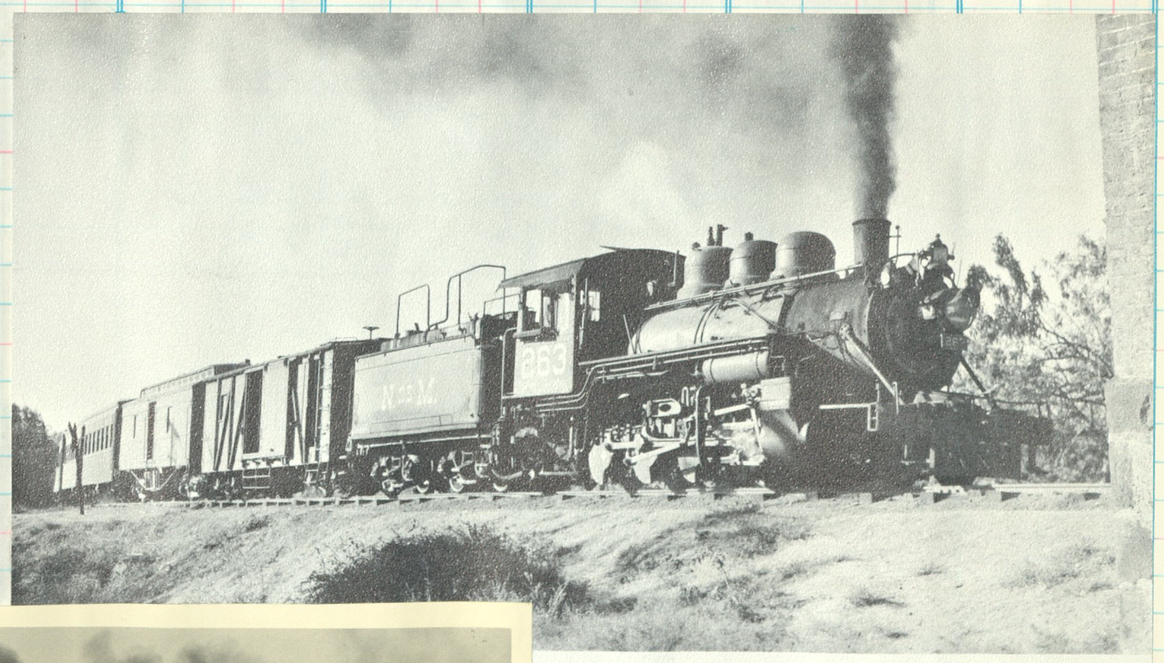
Total

The 263 has backed into clear at Chalco to let a double-headed freight pound by.

The 268 [org 193 c/n 55052] departing Chalco with a train of pristine passenger equipment.

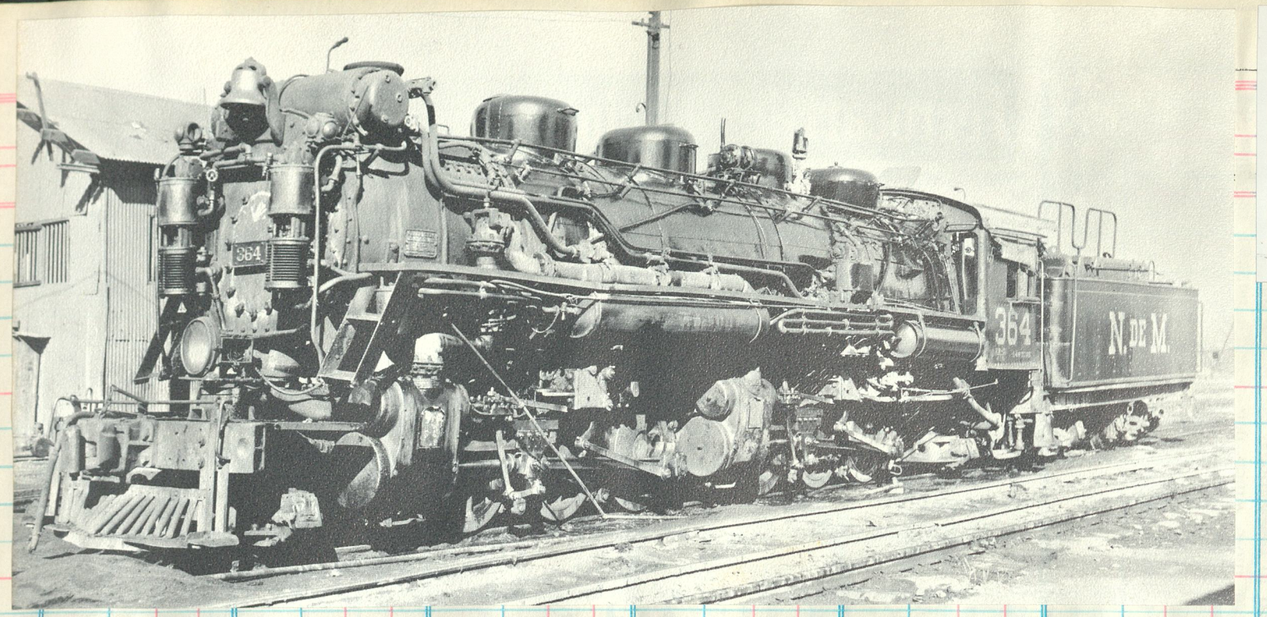


#270, org #195, c/n 55054



PUEBLA-MEXICO CITY PASSENGER climbing four percent grade out of Cuautla, Morelos.

Three prints of the 263. Blt by Baldwin 1921, org #188, a 2-8-0 c/n 55024 and was in regular service until 1968.



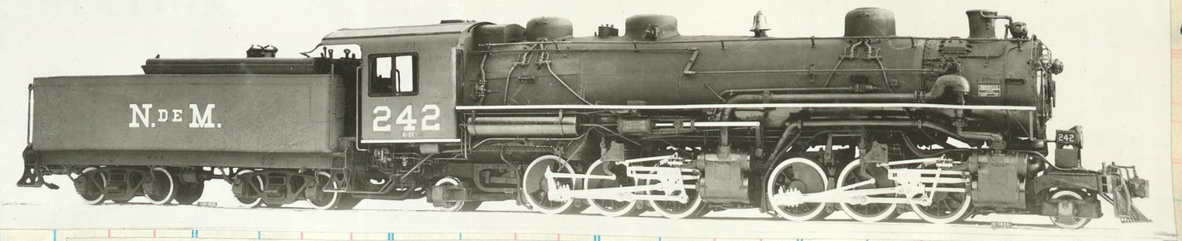


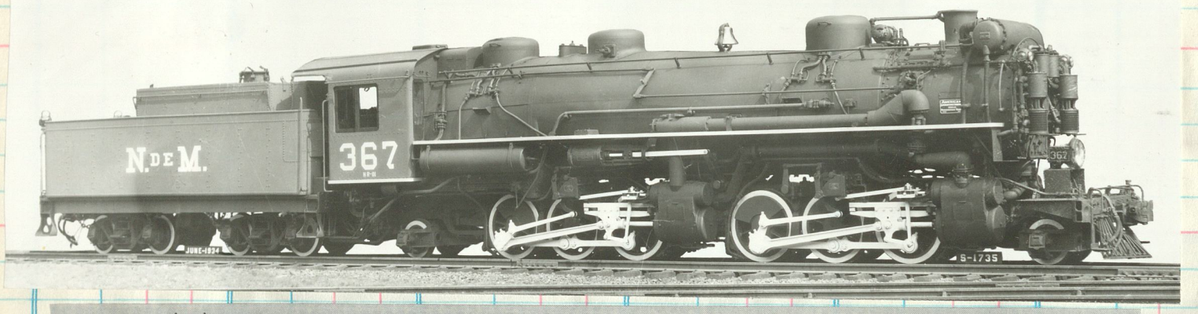
Fig. 3333—Simple Articulated 2-6-6-2 Type Locomotive Built by Alco for the National Railways of Mexico

240-245 c/n 67708 Schenectady 1928

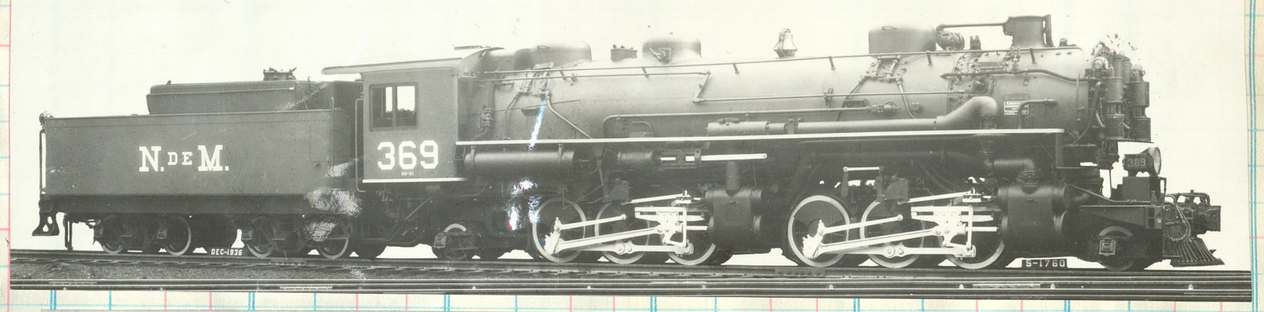
Gage	3 ft.	Boiler Pressure	210 lb.
Tractive Force	41,100 lb.	Heating Surface, Firebox and Syphons	204 sq. ft.
Weight, Total	204,000 lb.	Heating Surface, Tubes and Flues	2,245 sq. ft.
Weight on Drivers	161,500 lb.	Heating Surface, Total	2,449 sq. ft.
Cylinders	15 in. x 22 in.	Heating Surface, Superheater	680 sq. ft.
Driving Wheel Diameter	43 in.	Grate Area	52.5 sq. ft.

In 1930 this series renoed 361-366

None of the roads South of the Border hesitated to employee 'big power' for its narrow gauge operations.



Two additional, nos 367 & 368, delivered by Schenectady 1934 c/n 68644



And two more, nos 369 & 370, also from Schenectady, in 1936 c/n 68773

20

SELLER
DATE
FORM

Com. No. | Clos. No. | Sold | Amount | Clos. No. | Sold | Amount | Clos.No. | Sold | Amount

Coahuila y Zacatecas

Three foot gauge

1904

Coahuila & Zacatecas Ry.

SALTILLO, COAHUILA, MEXICO.

MAZAPIL COPPER CO., LIMITED, Owners and Operators.

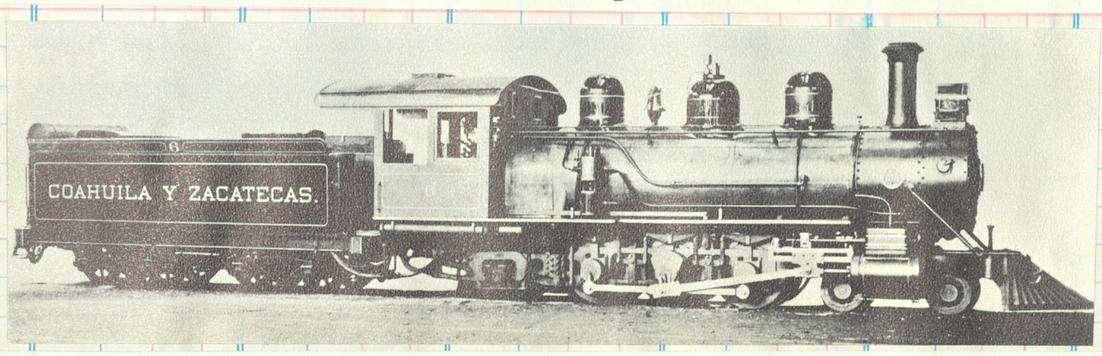
WILLIAM PURCELL, President and Treasurer, Saltillo, Mex.
WALTER J. BROWNING, Vice-Prest., Concepcion del Oro, Mex.
J. F. LYNCH, General Manager, Saltillo, Mex.
P. M. DODGE, Asst. Traffic Manager, Concepcion del Oro, Mex.
H. F. HORTON, Auditor, Saltillo, Mex.
C. A. HUTCHINSON, Superintendent, "
H. SCHOLFIELD, Consulting Engineer, "

No. 5	No. 1	Mls	*September 12, 1904.*	Kilos	No. 2	No. 6
.....	†7 30 A M	0	lve....**Saltillo**[1] ♁..arr.	125	6 55 P M	.....
.....	8 20 "	11	.....Encantada.....	108	6 15 "	.....
.....	8 40 "	17	..... Aguanueva	98	5 55 "	.....
.....	9 20 "	25	.....Carneros.....♁	86	5 30 "	.....
.....	9 40 "	32	..... Bunuelos	75	5 05 "	.....
.....	9 53 "	36	.....Martinez.....	68	4 48 "	.....
.....	10 10 "	41	..... Fraile .....♁	59	4 33 "	.....
.....	10 30 "	48	..... La Punta	49	4 15 "	.....
.....	10 40 "	50	..... Melville	46	4 07 "	.....
.....	10 55 "	55	.....Jazminal.....♁	37	3 40 "	.....
.....	11 25 A M	67	arr.....**Avalos**♁...lve.	19	3 10 P M	.....
†1 30 P M	.....	0	lve...**San Pedro**♁..arr.	27	.....	1 00 P M
2 00 "	.....	5	..... Jesus Maria	19	.....	12 38 Noon
2 30 "	.....	11	..... Canutillo	9	.....	12 05 Noon
2 45 "	.....	14	.....Bonanza.....♁	5	.....	11 50 A M
3 10 P M	.....	17	arr.....**Avalos**.....lve.	0	.....	11 30 A M
3 20 P M	11 30 A M	67	lve.....**Avalos**.....arr.	19	3 00 P M	11 05 A M
3 50 "	11 55 A M	74	.....Margarita.....♁		2 30 "	10 25 "
4 20 P M	12 20 Noon	78	arr..**Concepcion**♁.lve.	0	†2 10 P M	†1000 A M

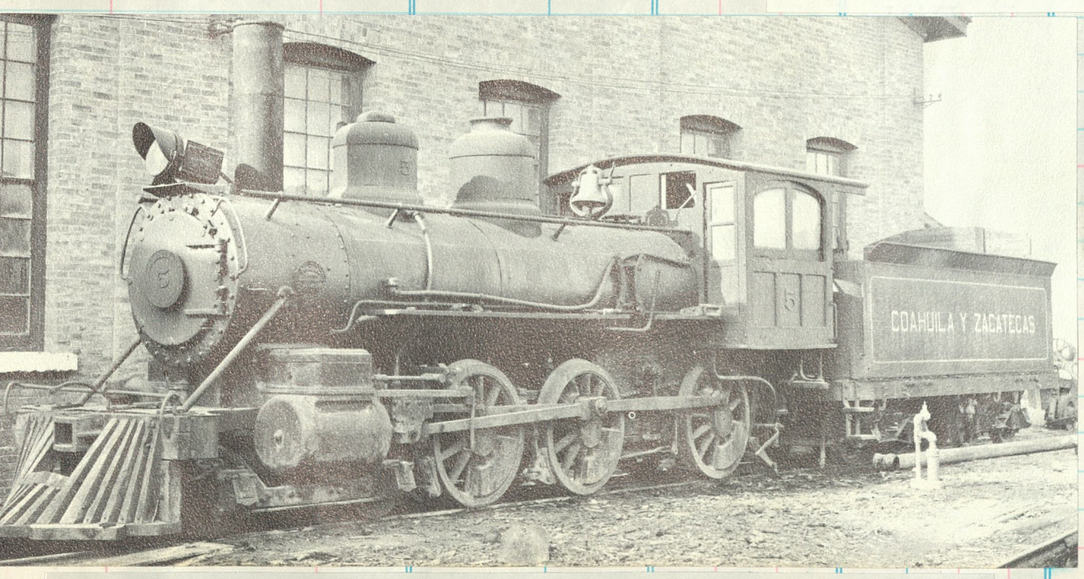
Trains marked † run daily, except Sunday. ♁ Telegraph stations.

Connections.—[1] With National R.R. of Mexico and Coahuila & Pacific R.R. *City of Mexico time.*

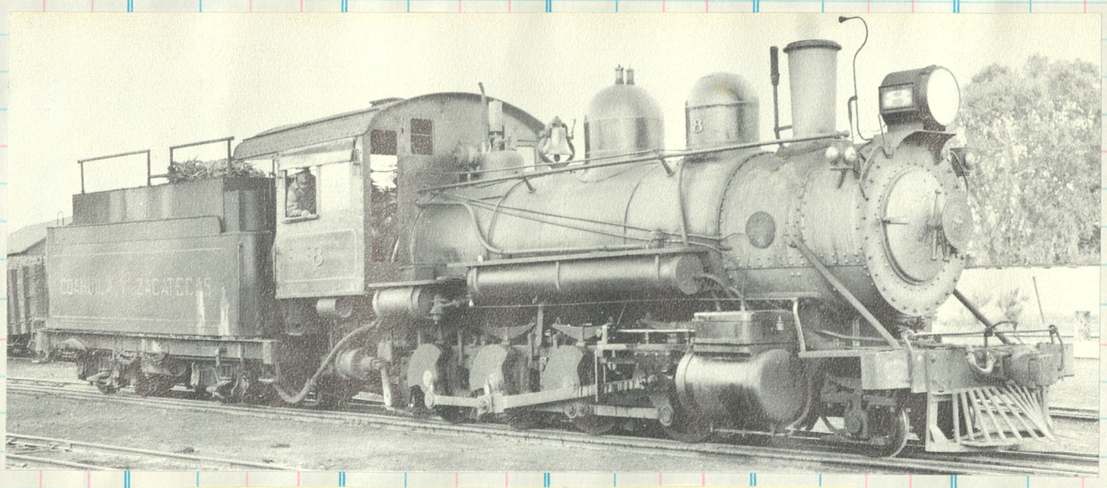
The CyZ's "El Rapido" ambles along on its daily round trip handled by #6, now as a 4-6-0 after being rebuilt.



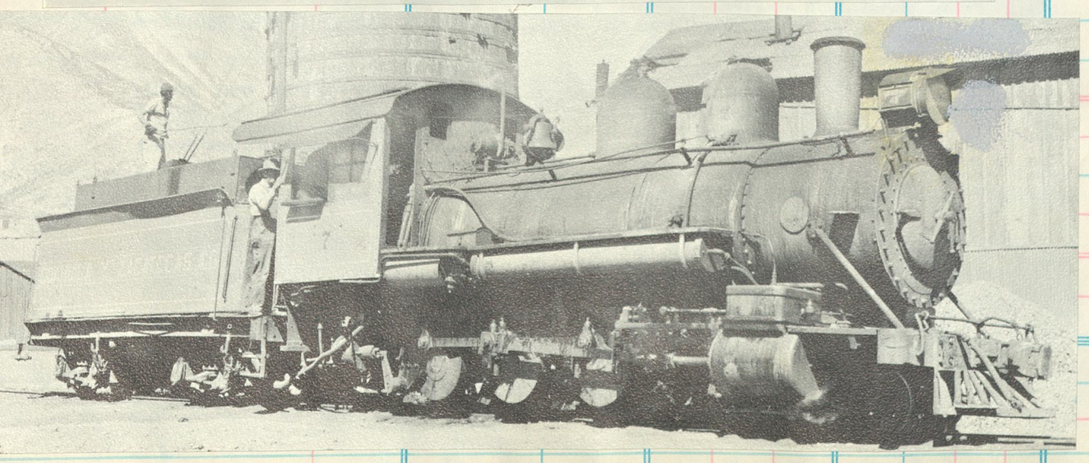
The #6, as built by Baldwin in 1904 (c/n 24252), was a perky outside frame 4-6-2 but rebl't in 1910 to a 4-6-0.

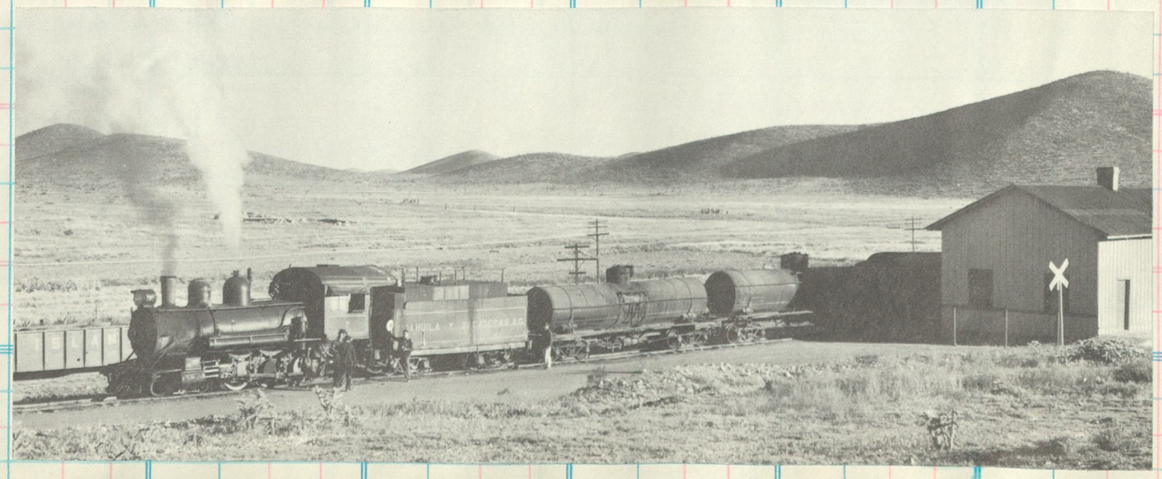


This ol' teapot came from Baldwin in 1889 as Mex Ntl #137 c/n 9939. Sold to CyZ in 1903 as #5. Retired in 1952!



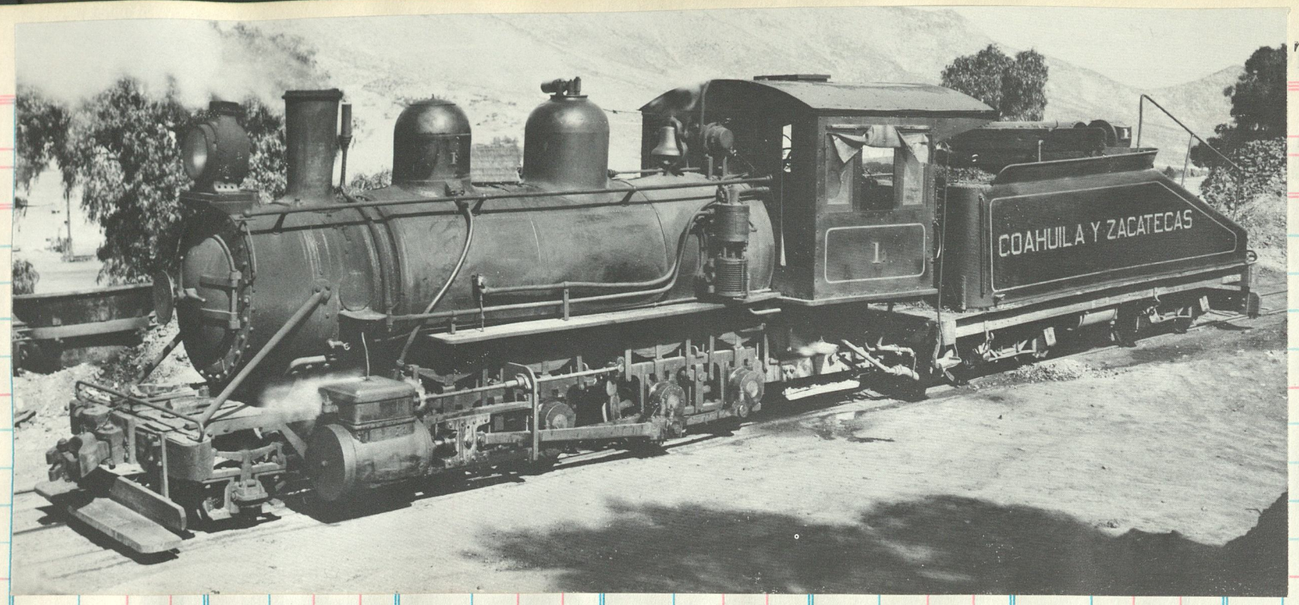
Consolidation #8 Baldwin 1907 c/n 30178



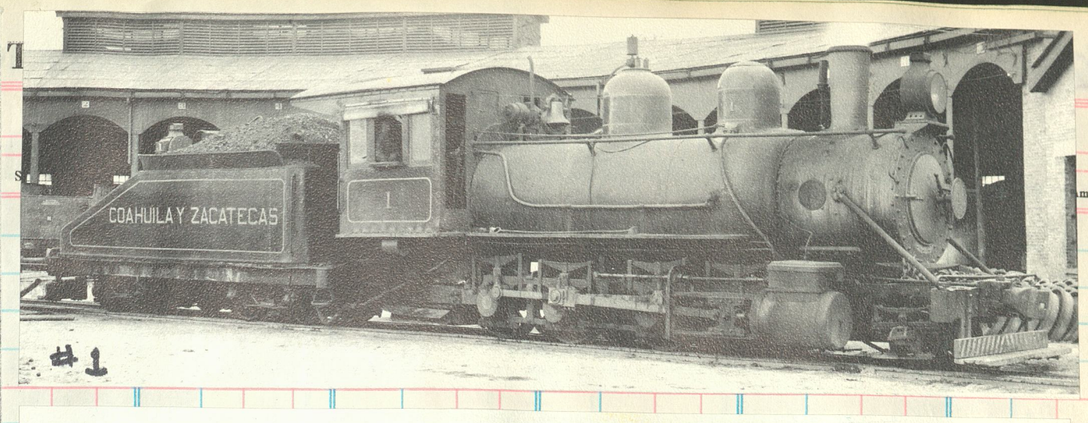


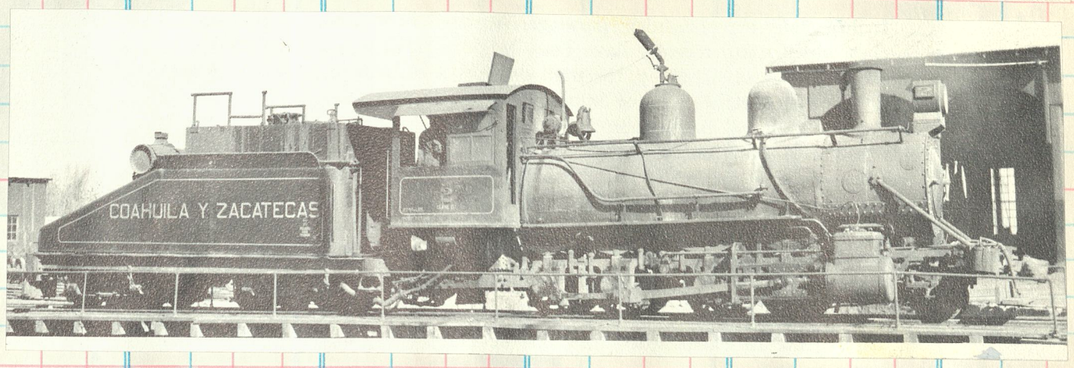
#7 was a Ten wheeler bl't by Baldwin 1907 c/n 29869, and, with a train at Concepcion de Oro

Total

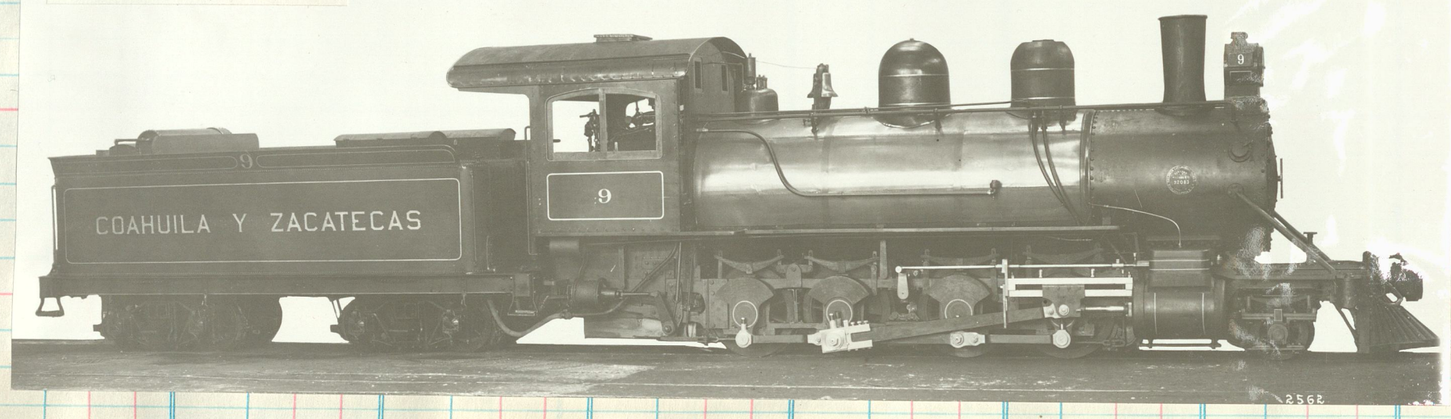


The first power for the CyZ was a pair of 2-8-0's delivered by Baldwin in 1897 numbered 1 & 2 [c/n's 15435-36]. No. 1 along with nos 6 & 12 were sold to the 'Early West Ry' and were stored at Pomona, Calif. c 1968.

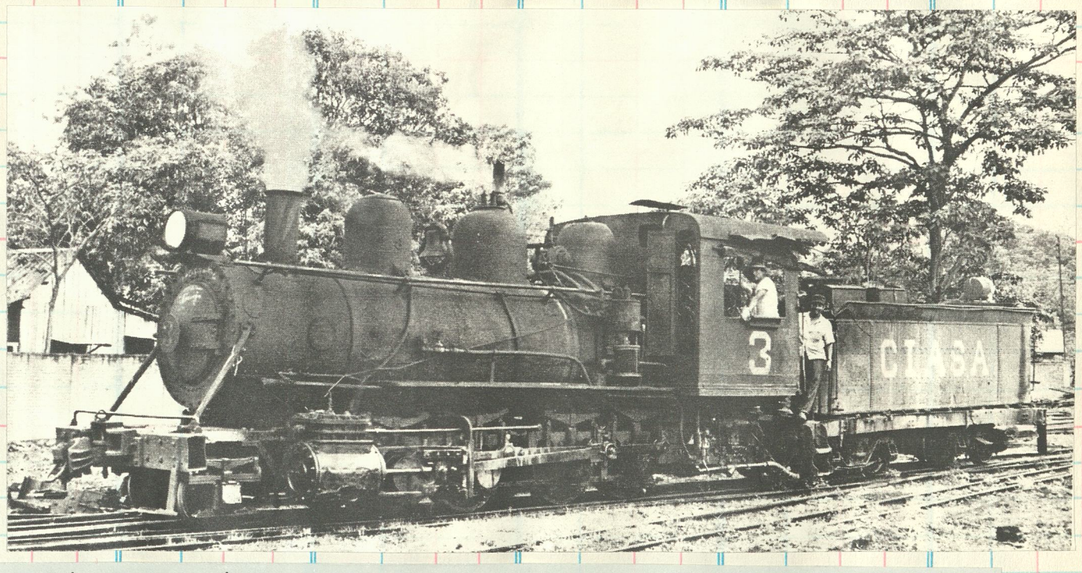




Baldwin 1907



The builders construction numbers, in steam locomotive research, make for identification. Yet there were times when this could be misleading. An example is this Baldwin photo of #9 with a builders plate showing c/n 32083. However, construction records indicate the correct number to be 32129. There are other instances of similar errors being made. An explanation might be when the photo was to be taken a Baldwin employee attached the wrong plate. Later, when the mistake was discovered, the correct plate was applied.



Cia Industrial Azucarera #3. A 2-8-0 built by Baldwin 1898 c/n 15784 as CyZ #3.

22

ORIENT
The Kansas City, Mexico & Orient Railroad

Amt.

KANSAS CITY, MEXICO & ORIENT LINES IN MEXICO.

Richmond 1920
c/n 61771

Robert M. Hanft/Gerald M. Best collection

At Los [illegible] in Mexico, Kansas City, Mexico y Oriente 152 (ex Apalachicola Northern 510, ex FEC 150), is one of three F[illegible]ifics which made their way south of the border.

The K.C.M.y O. (Mexico) operated 349 miles with 11 engines, 254 freight and 11 passenger cars in 1927.

On the Mexican end of the Kansas City, Mexico & Oriente a rusty, woebegone 2-8-0, eastbound from Chihuahua to Ojinaga with the way freight, pauses in Picachos to drop off some empty gondolas. The Oriente was Arthur Stillwell's dream-road short cut from West Texas to the Pacific Coast.

An illustration of 'nonchalant' railroading. The 403, or is it the 402? Note the engine carries number 403 but her tank is numbered 402. So? Aw, what to hell! Anyway she (they) was one of five similar engines purchased from the A.T.& S.F. in 1948-50. Orginally ordered from Pittsburgh in 1909 by the old K.C.M.& O. numbered 203-215. In 1929 became the Santa Fe 2525 class noed 2537-2549. Also fitting to this scene is the tank car askew, possibly in use as auxiliary water supply, appears ready to roll over. "Lento, amigo!"

Total

Total

Total

FERRO
CHIHUAHUA

FERROCARRIL DE CHIH
(CHIHUAHUA-
Formerly F. C. Nor-Oeste de M
and Ferrocarril Kansas City, Mexico
General Offices: 202 19a Street, Chihuahua, Chih., Mex.

MEXICO NORTH-WESTERN RAILWAY

NOR-OESTE DE MEXICO.

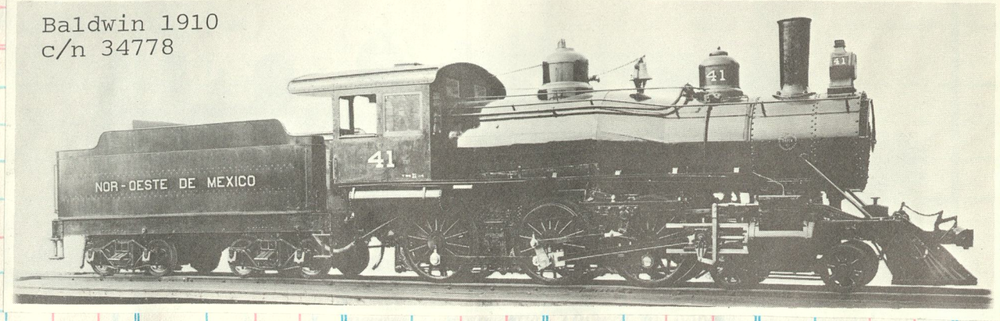
A P R-46 5-74 100 bks. (Eureka 29387) Printed in U. S. A.

23

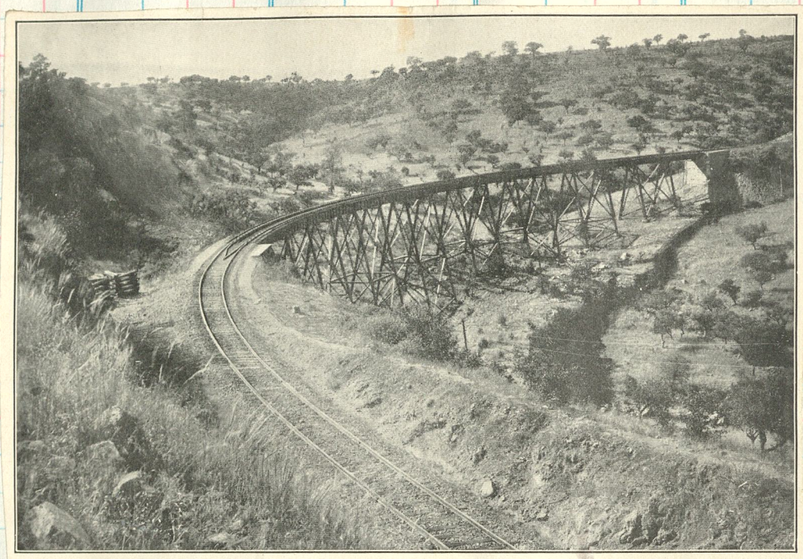
Clos. No. | Clos. No. | Sold | Amount | Clos. No. | Sold | Amount | Clos. N | Amount

In 1927 the NOdeM operated 497 miles with 27 engines, 21 passenger and 1,071 freight cars

Baldwin 1910
c/n 34778

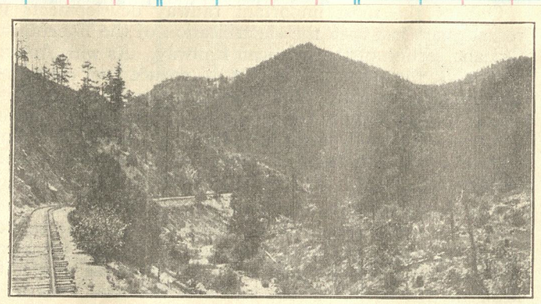


2 Pet

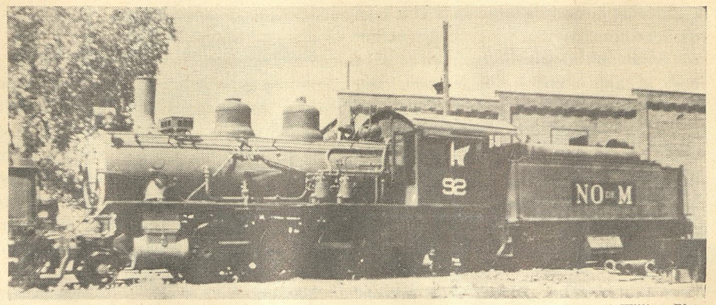


THE FOOTHILLS OF THE MOUNTAINS

A trestle on the Mexico Northwestern Railroad among the foothills of the Sierra Madre Mountains. Villa's retreat from Columbus, N. Mex., was at first in the general direction of this American-English owned railroad



On the Mexico North Western in the Cumbres

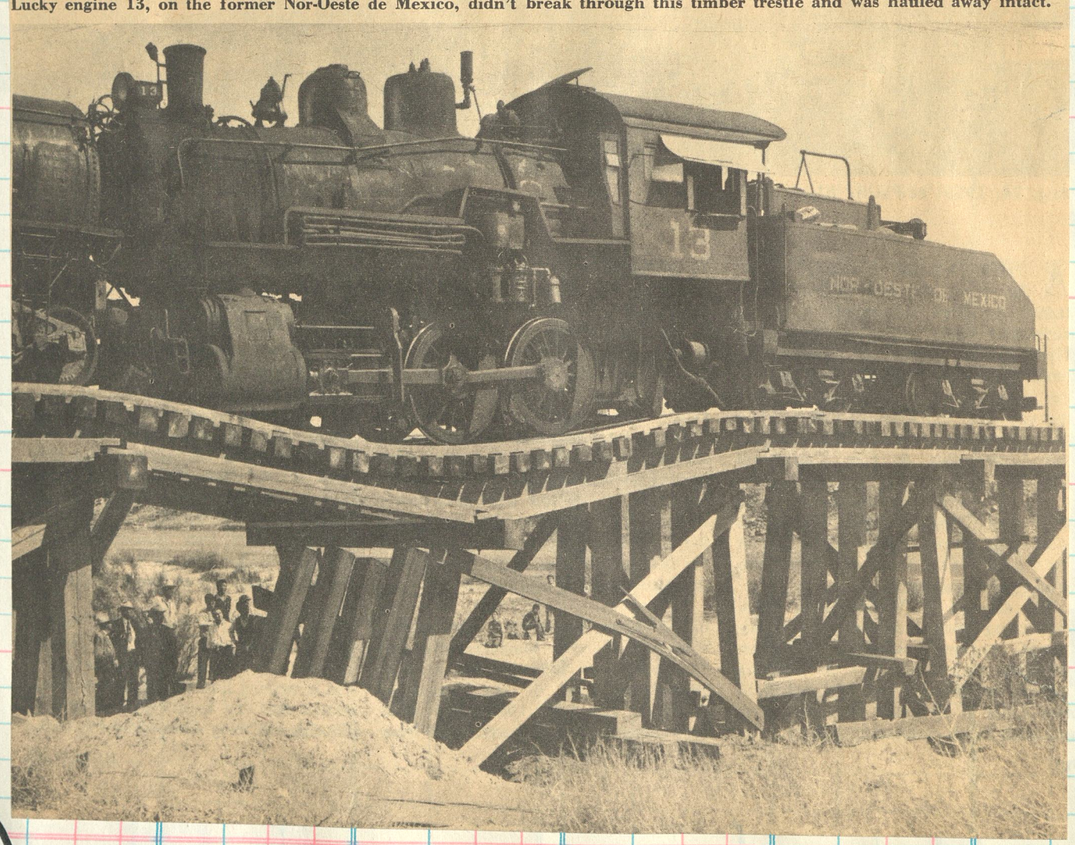


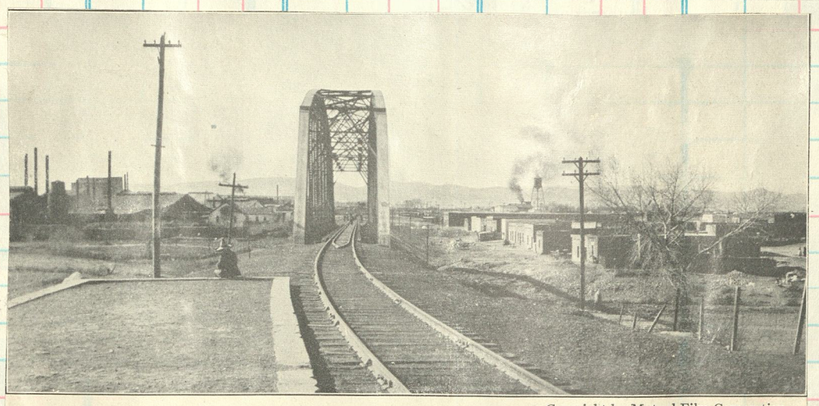
William Pletz

ENGINE 92 OF THE MEXICO NORTH WESTERN, AT CIUDAD JUAREZ, CHIHUAHHUA, MEX.

2-8-0 #92 was blt in 1899 by Dickson for the Santa Fe Pacific

Lucky engine 13, on the former Nor-Oeste de Mexico, didn't break through this timber trestle and was hauled away intact.





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THE CITY OF CHIHUAHUA

Capital of the Mexican state of the same name. Because of the rich mines in its vicinity it enjoys, in normal times, great prosperity. It was captured twice by United States troops in the Mexican War in 1847

MEXICO NORTH WESTERN RAILWAY CO.

Ferrocarril Nor-Oeste de Mexico.

_____, President, New York.
H. I. MILLER, Vice-President, "
J. O. CROCKETT, Vice-President, El Paso, Tex.
A. M. TRUEB, Secretary, New York.
U. de B. DALY, Treasurer, Toronto, Ont.
LUIS RIBA, Legal Representative for Republic of Mexico, 3a Calle de Colon 36, Mexico City.
F. L. WEMPLE, Gen. Freight and Pas. Agent, Ciudad Juarez, Chih., Mex.
F. J. CLARK, Acting Auditor, " "
J. J. PRUETT, General Manager, " "
F. J. CLARK, Superintendent, Madera, Chih., Mex.
GEORGE H. BUSSING, Supt. Mot. Power and Equip., Ciudad Juarez, Chih., Mex.
F. H. BAILEY, Customs Agent, "
General Offices—14 Wall Street, New York.

1912

EL PASO SOUTHERN RAILWAY.—This line owns the bridge across the Rio Grande River at El Paso and the terminals in El Paso, and is owned and operated independently in connection with the Mex. N.W. Ry. Co. Mileage, ½ mile.

Connections.—[1] With railroads diverging. [2] With National Railways of Mexico. [3] With stage lines for Navidad, Concheno, Pinos Altos and Ocampo. [4] With Kansas City, Mexico & Orient. [5] With National Railways of Mexico (Passenger Traffic only). [6] With National Railways of Mexico (Freight Traffic only). Kansas City, Mexico & Orient.

	3	1	Mls	*May 5, 1912.*	Kilos	2	4
	P M	A M		LEAVE ARRIVE		P M	A M
	*7 45	*8 30		El Paso[1]		7 30	*7 00
	8 00	8 15	0	Ciudad Juarez[2]. ð	766	7 10	*6 45
	P M	8 29	7	Arena	756	6 45	A M
		8 39	11	Bauche	749	6 37	
		8 46	14	Mendez	744	6 30	
		9 04	25	Sapello	727	6 12	
		9 17	32	Mezquite	716	5 58	
		9 35	43	Medanos	698	5 38	
		10 02	57	Conejos	676	5 14	
		10 08	60	Barreal	671	b 08	
		10 21	68	San Blas	658	4 54	
		10 41	78	Guzman ð	641	4 34	
		10 58	87	Urrutia	626	4 14	
		11 15	97	Sabinal ð	611	3 54	
		11 20	99	Ochoa	608	3 48	
		11 40	109	Santa Sofia	592	3 28	
		12 03	117	San Pedro ð	578	3 10	
		12 13	121	Summit	573	3 00	
		12 42	136	Corralitos	548	2 28	
		12 59	145	Embarcadero	533	2 10	
		1 09	148	Colonia Dublan	529	2 00	
		1 15	150	Neuva Casas Grandes ð	526	1 50	
		1 19	152	Huerto	522	1 39	
		1 30	156	Don Luis	516	1 30	
		1 38	160	Anchondo	509	1 21	
		2 15	168	Pearson ð	496	1 05	
		2 40	177	Rucio	483	12 20	
		3 10	187	Cuevitas	466	11 53	
		3 25	194	Riba	455	11 30	
		3 55	203	Aguaje	440	10 55	
		4 10	209	Caballo	431	10 33	
		4 55	216	Cumbre	419	10 01	
		5 18	221	Chico	411	9 38	
		5 53	230	Drake	397	9 02	
		6 18	238	Babicora	383	8 33	
		6 41	248	Concha	369	8 10	
		7 25	261	Cebadilla	346	7 35	
		8 00	272	arr. Madera ð lve.	329	*7 00	
		*7 30	272	lve. Madera arr.	329	7 50	
		7 53	283	Las Varas	311	7 25	
		8 15	293	Rincon	295	7 02	
		8 20	296	Vejomera	291	6 57	
		8 38	305	Temosachie[3] ð	277	6 39	
		8 49	310	Loma	269	6 27	
		8 58	314	Matachic	262	6 18	
		9 15	322	Tejolocachic ð	248	6 00	
		9 45	336	Santo Tomas ð	226	5 31	
		9 52	339	Casa Blanca	221	5 24	
		9 54	341	San Pablo	219	5 21	
		10 07	347	San Isidro ð	203	5 09	
		10 09	348	Calera	208	5 07	
		10 17	352	Basuchil	201	4 59	
	102	10 24	355	Saenz	195	4 52	103
	P M	10 35	358	arr. La Junta ð lve.	191	*4 45	A M
	a555	b1005	364	Minaca[4] ð	201	5 20	9 35
	6 10	10 20	359	Carpio	193	5 05	9 20
	6 15	10 25	358	arr. La Junta ð lve.	191	a500	b915
	P M	*1035	358	lve. La Junta ð arr.	191	4 45	A M
		10 49	365	Rosario	180	4 25	
		10 57	369	Paramo	174	4 17	
		11 07	374	Pedernales ð	165	4 07	
		– –		Continental Divide		– –	
		11 20	379	Mal Paso	157	3 55	
		11 24	381	Casa Colorada	155	3 50	
		11 32	385	Pampas	148	3 41	
		12 01	389	San Antonio ð	140	3 32	
		12 17	398	Llano	126	3 15	
		12 23	401	Laguna	122	3 08	
		12 32	405	Bustillos ð	115	2 58	
		12 41	410	Mesa	107	2 48	
		12 49	414	Aldana	101	2 38	
		12 57	418	Sandoval	94	2 26	
		1 05	421	San Andres ð	89	2 18	
		1 19	428	Chavarria	79	2 06	
		1 35	436	La Baeza	65	1 51	
		1 45	439	Santa Isabel ð	61	1 45	
		1 51	441	Santa Sabina	57	1 40	
		1 59	445	Apache	51	1 31	
		2 11	450	Palomas	43	1 22	
		2 25	456	Salas ð	33	1 10	
		2 40	463	Fresno	22	12 55	
		2 51	468	Ranchitos	14	12 40	
		3 00	472	arr. Chihuahua ð lve.	7	*12 30	
		P M	476	Tabalaopa[6]	0	Noon	

* Daily; † daily, except Sunday; *a* Monday, Wednesday and Friday; *b* Tuesday, Thursday and Saturday. STANDARD—All trains run *Mexico City time*, which is 24 minutes faster than El Paso (*Mountain time*).

ð Telegraph stations.

CUSIHUIRIACHIC BRANCH.

No. 5		Miles	No. 6
March 10, 1912.			
lve. San Antonio arr.		23	11 30 A M
arr. Cusihuiriachic lve.		6	1 00 P M
lve. Cusihuiriachic ð		0	1245 P M

CARRIL ★ AL PACIFICO

HUAHUA AL PACIFICO, S.A.
PACIFIC RAILWAY)
exico (Mexico North-Western Railway)
y Oriente (Kansas City, Mexico & Orient Ry.)
Post Office Address: P. O. Box 46, Chihuahua, Chih., Mex.

24

SELLER
DATE
FORM | DESTINATION | Amt. | Com. No. | Clos. No. | ...unt

FERROCARRIL MEXICANO

...ALES AT

The F.C.M. was merged into the National de Mexico in December 1960

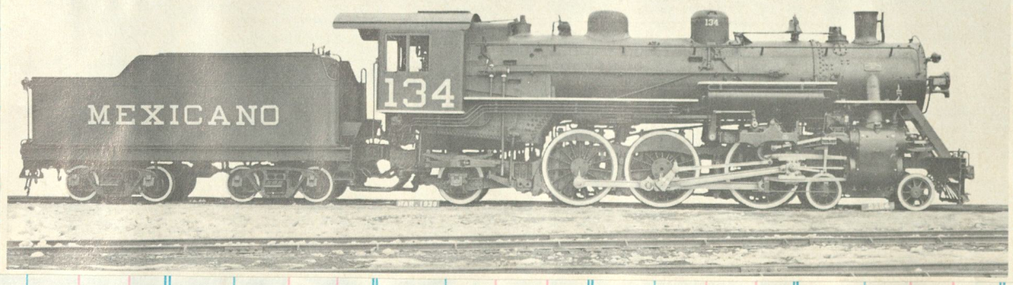
COMPANIA DEL FERROCARRIL MEXICANO-

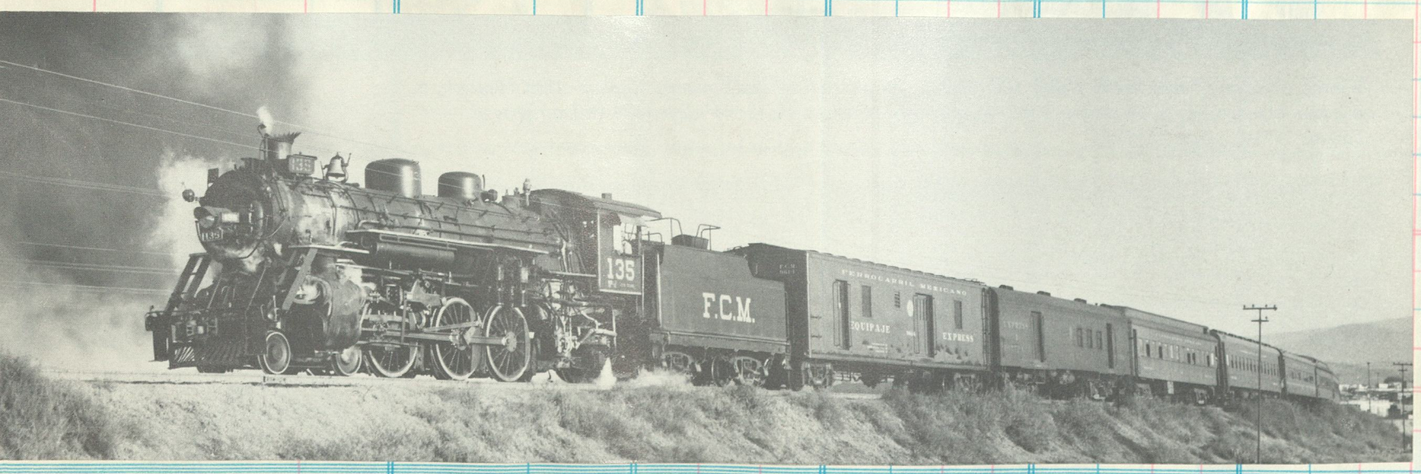
Westbound Trn #51 departing Huamantla in Feby 1960 behind Pacific #134

The F.C.M. in 1927 had 108 steam and 10 electric engines on the roster along with 1,045 freight and 85 passenger cars operating 326 miles.

This clip same location as initial NdeM clip on Pg 1

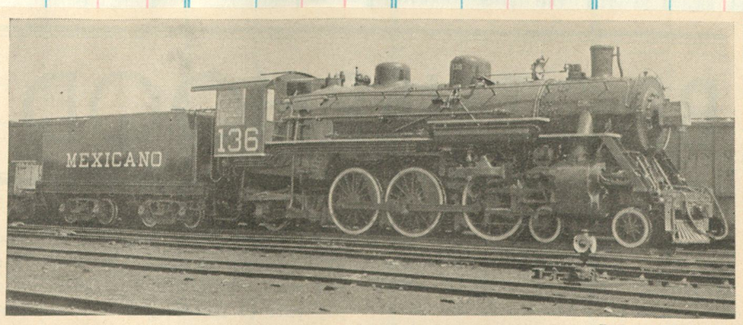
One of three, 134-136, three cyl Pacifics blt by Montreal 1938
c/n 69061





Mexicano 135, one of the road's handsome 1938 Montreal-built 3-cylinder Pacifics, charges upgrade out of ~~Tlaxcala~~ with El Anahuac, *Mexico City-bound on January 25, 1960. "The 3-cylinder exhaust beat on this 1½% grade was something to hear," states Stan Kistler.*

Apizaco



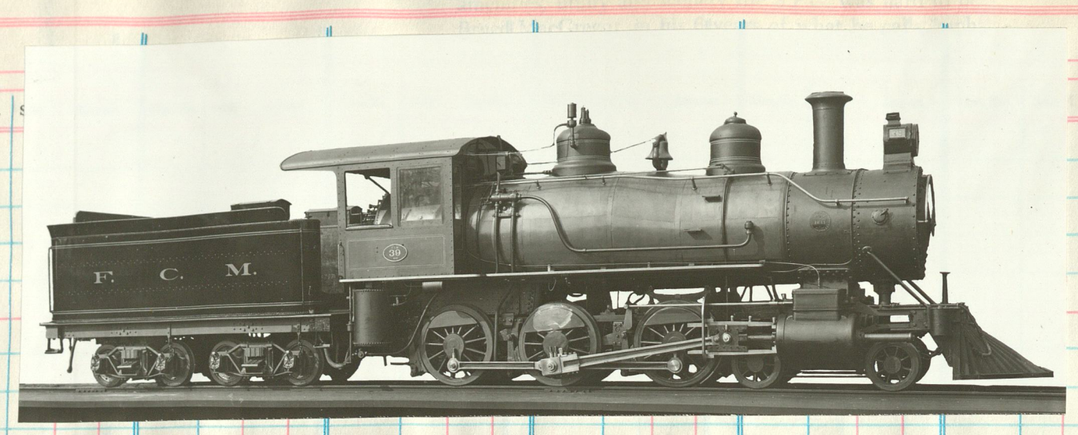
Railroad Photographs

BUILT IN MONTREAL FOR MEXICAN SERVICE

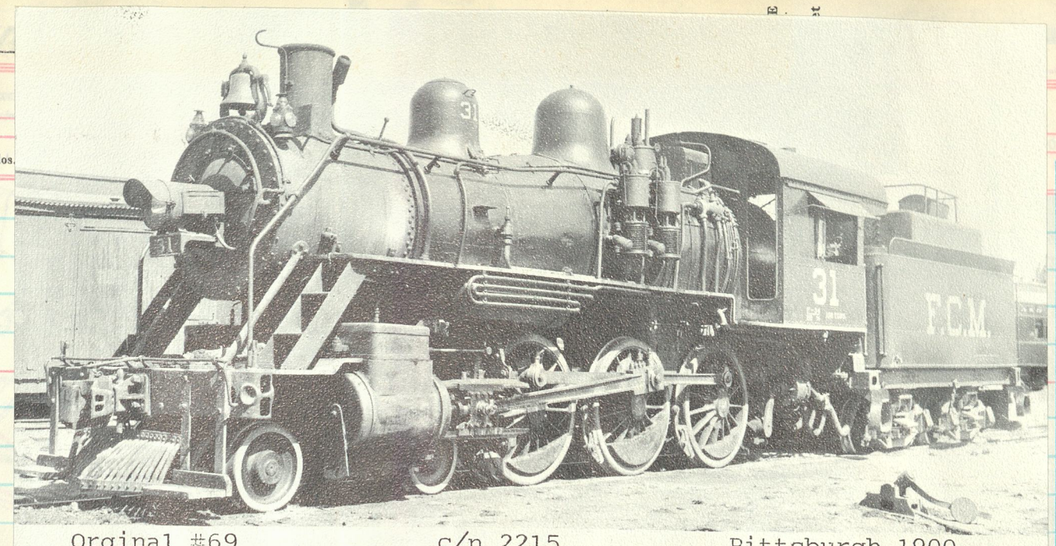
Locomotive 136 of the Mexican Railways is a light Pacific 3-cylinder simple, finished in light green. Photograph was taken in Pennsylvania Yard at Columbus, Ohio, when locomotive was enroute to Mexico.

Total

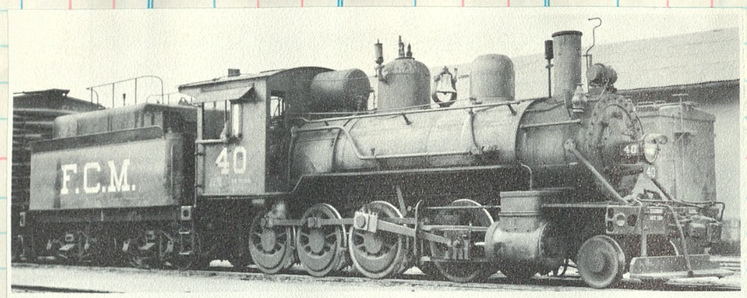
Clos. No. | S | Amount | Clos. | Sold | Amount



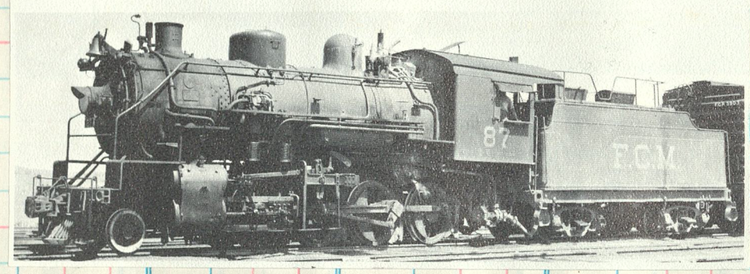
A pair of Ten wheelers for the Mexican Central built by Baldwin in 1906. #39 had c/n 28163



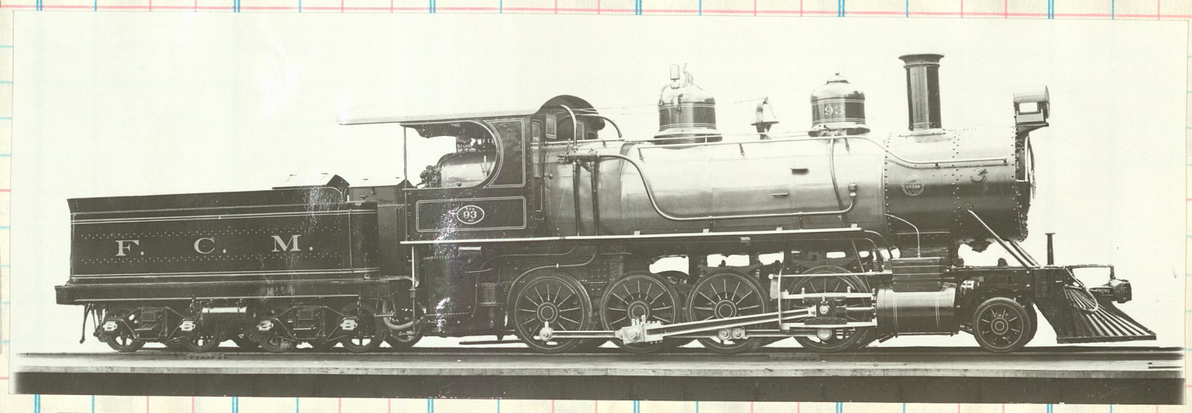
Orginal #69 c/n 2215 Pittsburgh 1900



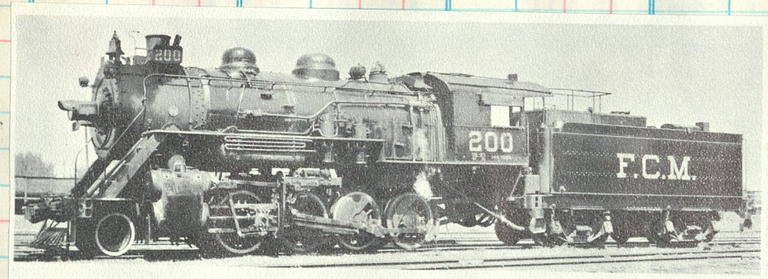
#40 blt by Baldwin 1881 c/n 5769 as #1, later 61 then 40. Now on static display Mexico City

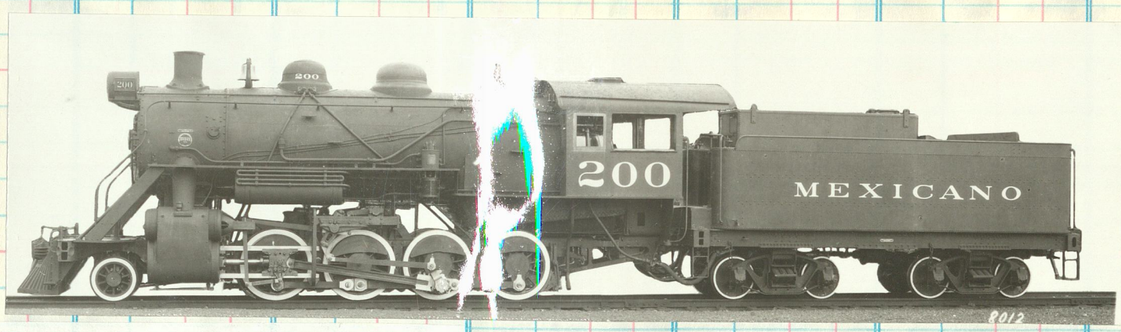


#87 blt as C.M. #854 by Cooke 1904 c/n 29317. later #556, to NdeM 1293

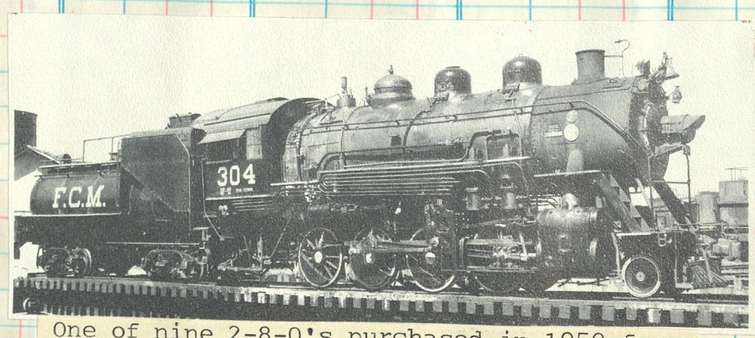


Mexican Central #93 blt by Baldwin 1903 c/n 24209. Renoed #50

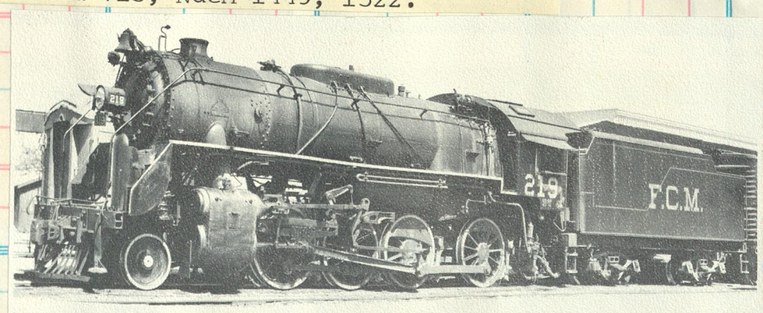




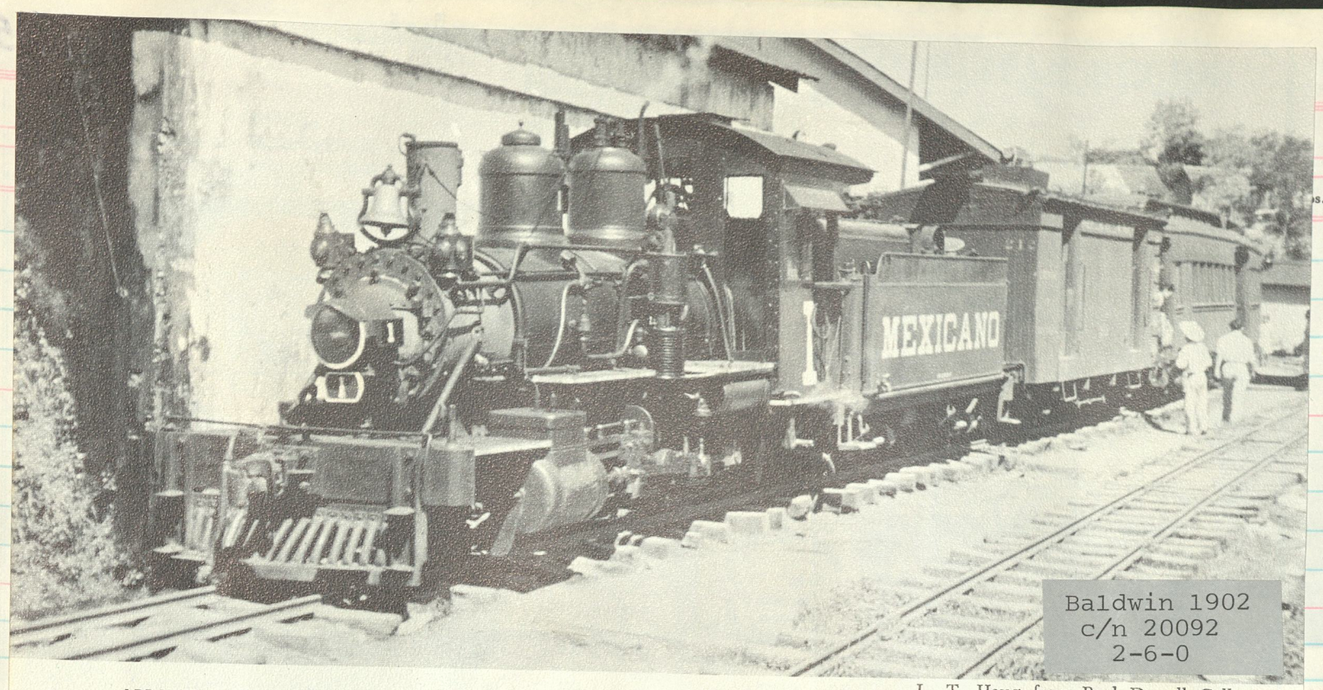
Initial engine of ten noed 200-209 from Baldwin 1921 c/n 54845



One of nine 2-8-0's purchased in 1950 from NdeM. #304 blt by Baldwin 1906 as Mex Ntl #570, renoed 715, NdeM 1449, 1522.



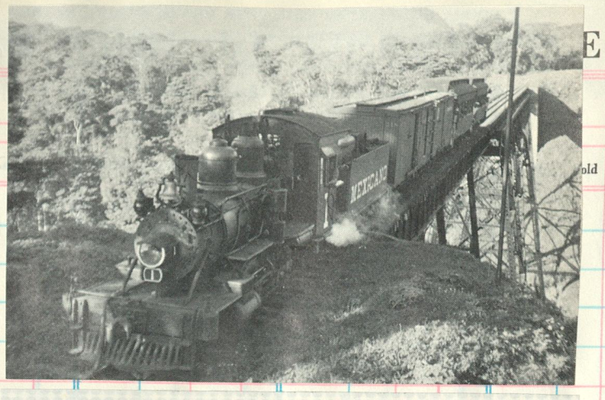
The final power received by the F.C.M. was ten Consolidations delivered by Baldwin in 1946, the 216 [c/n 73242] on the turntable at Orizaba. All were of the USA WWII design.



Baldwin 1902
c/n 20092
2-6-0

ARRAYED IN CLASSIFICATION LIGHTS, little "one-spot" looks very business-like, despite the lilliputian two-foot gauge. At Cordova in 1948. This 20 mile line was abandoned in 1951.

L. T. Haug from Paul Darrell Collection

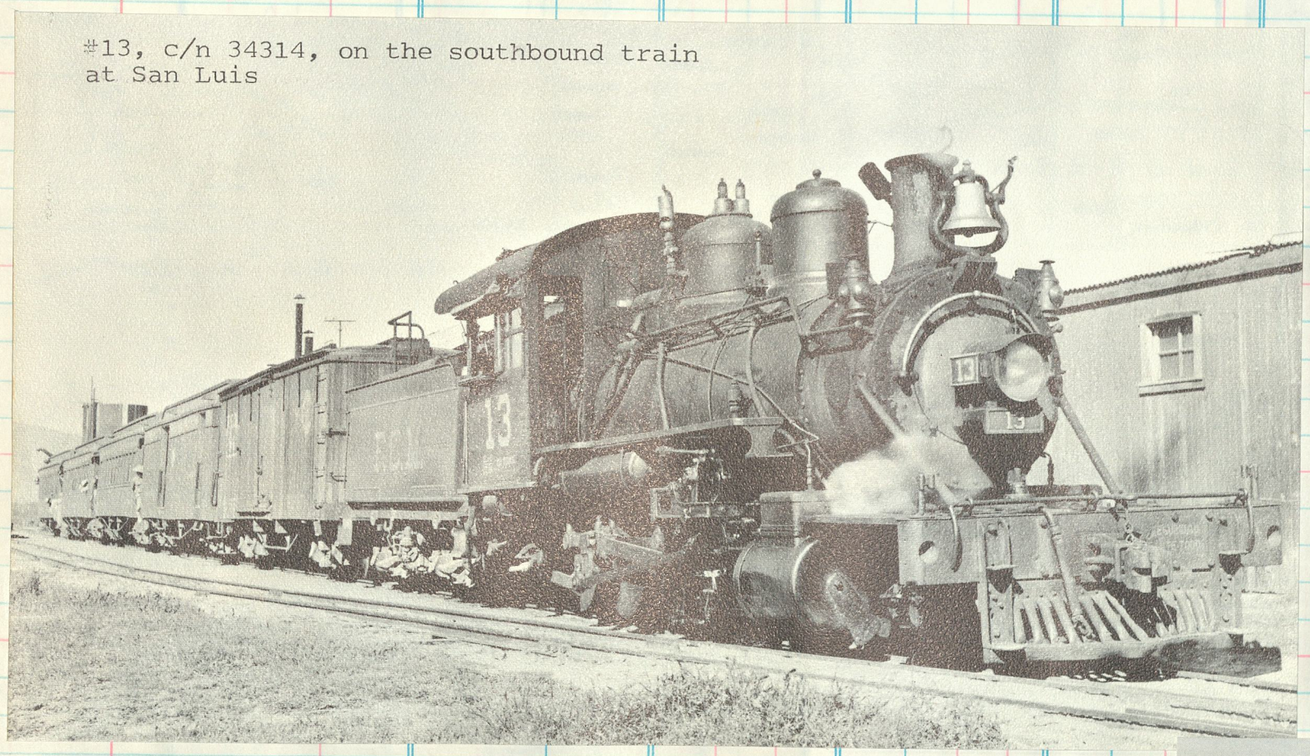


On the Cordoba a Huatusco #1 makes one of its four daily crossings of the Rio Jamapa at Tomatlan.

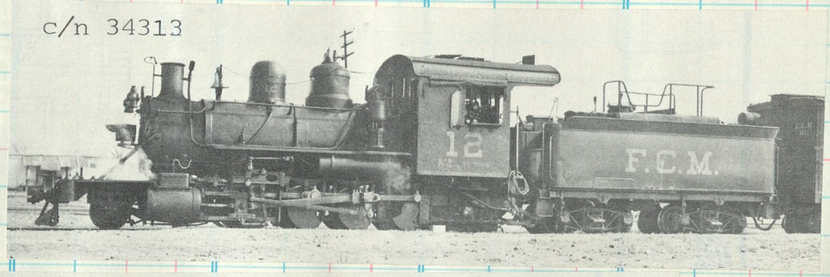
ES AT

s. No.	Sold	old	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount

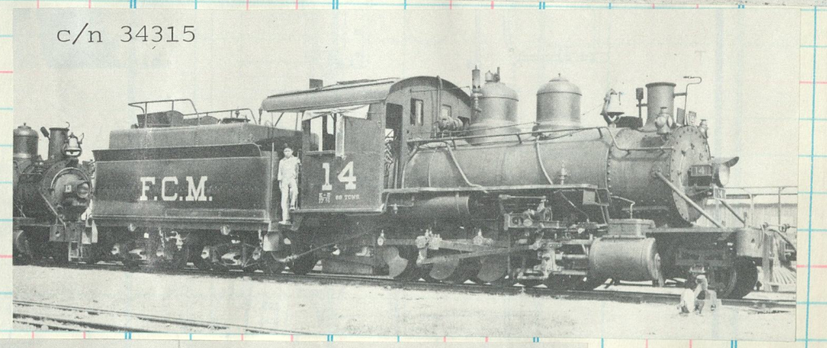
#13, c/n 34314, on the southbound train at San Luis

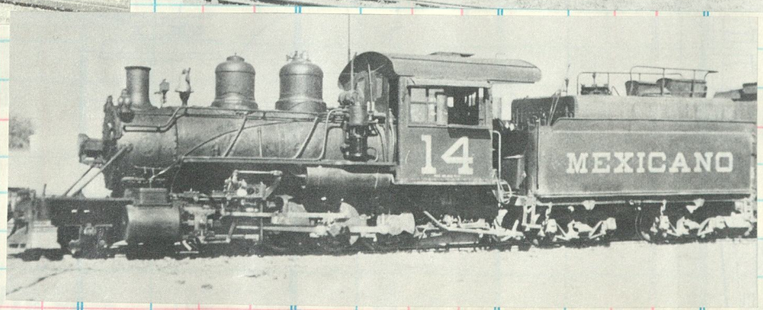


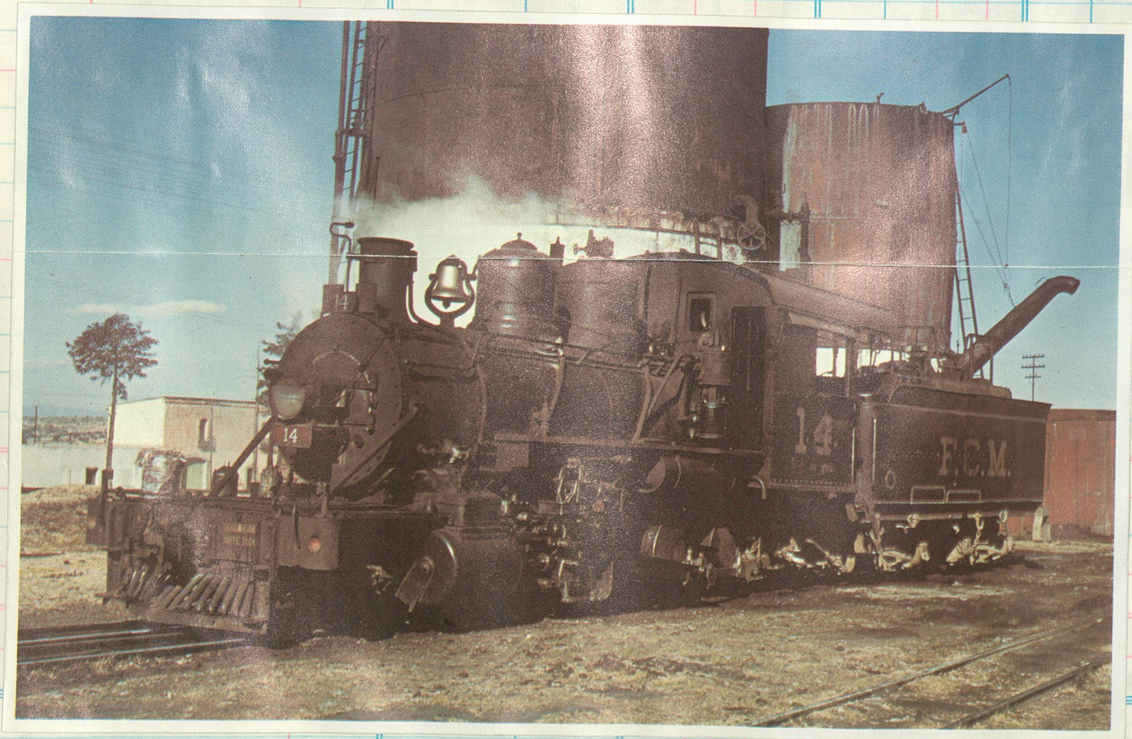
c/n 34313



c/n 34315

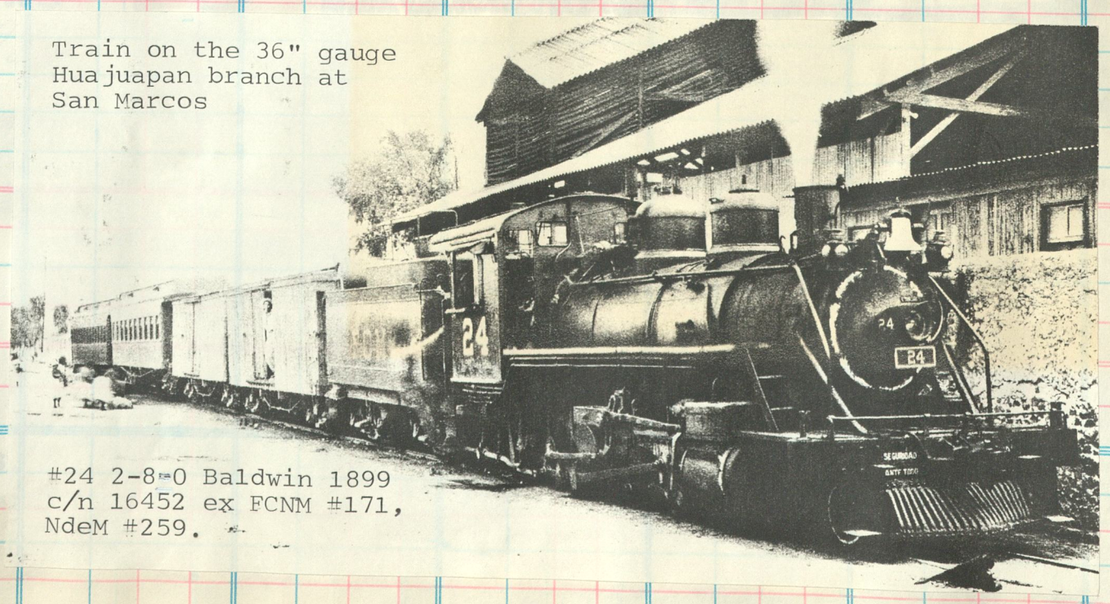






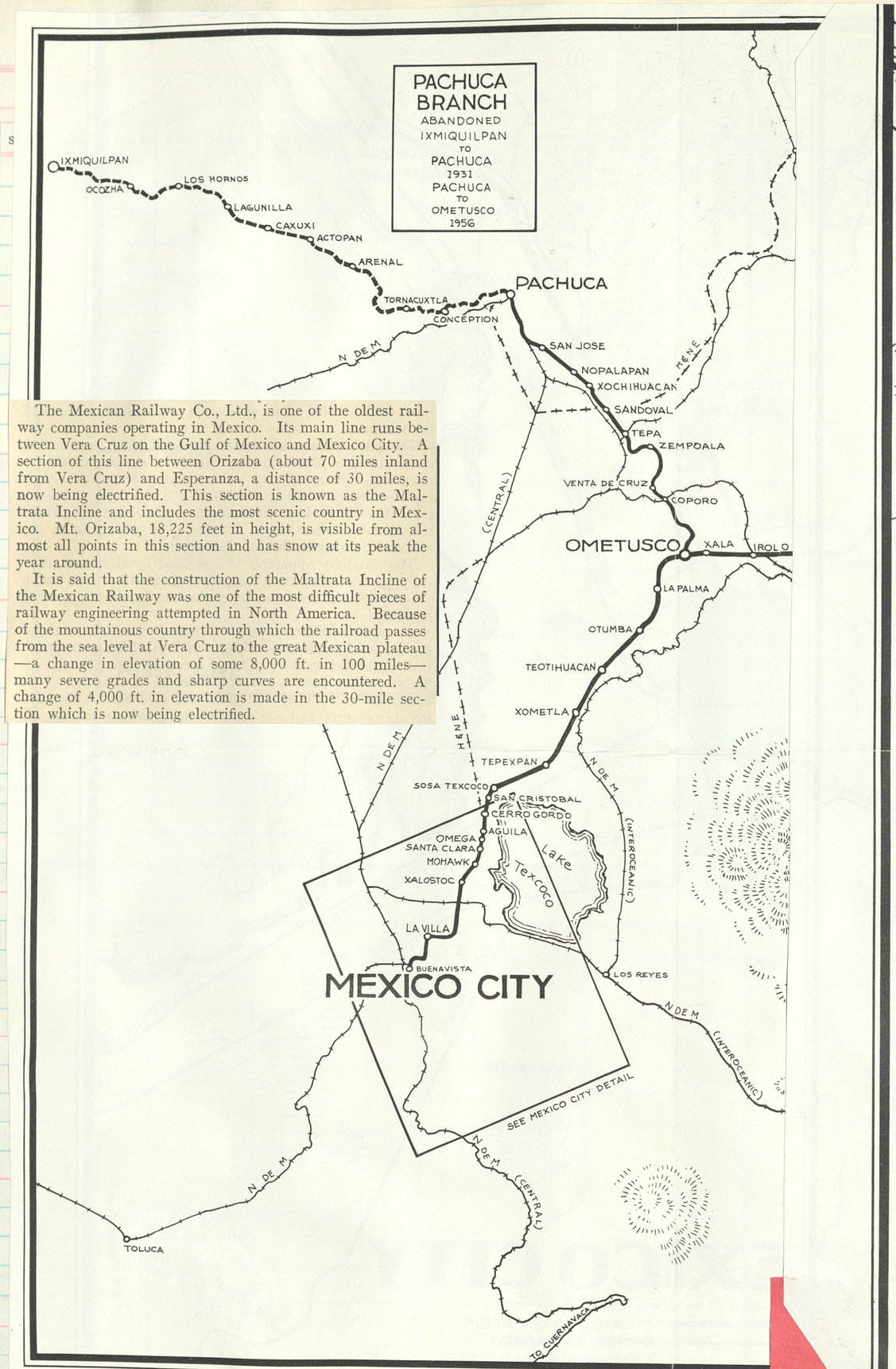
In 1910 Baldwin delivered four 30" gauge 2-8-0's for the Zacatlan branch noed 11-14. #12 on static display Edaville.

Train on the 36" gauge Huajuapan branch at San Marcos



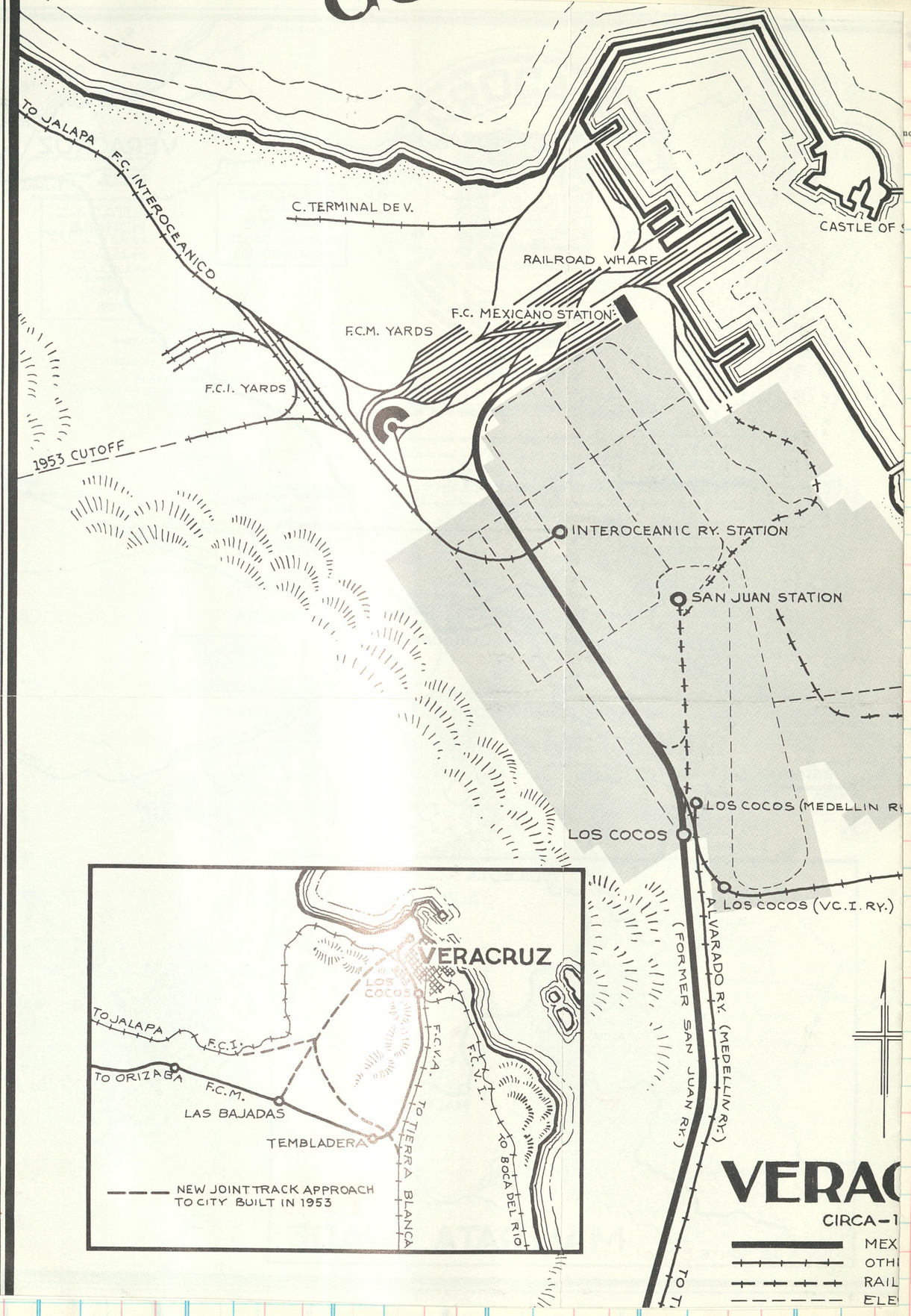
#24 2-8-0 Baldwin 1899
c/n 16452 ex FCNM #171,
NdeM #259.

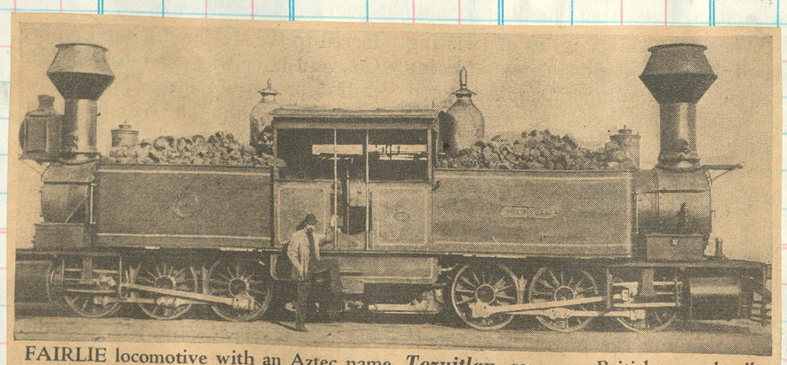
Total



The Mexican Railway Co., Ltd., is one of the oldest railway companies operating in Mexico. Its main line runs between Vera Cruz on the Gulf of Mexico and Mexico City. A section of this line between Orizaba (about 70 miles inland from Vera Cruz) and Esperanza, a distance of 30 miles, is now being electrified. This section is known as the Maltrata Incline and includes the most scenic country in Mexico. Mt. Orizaba, 18,225 feet in height, is visible from almost all points in this section and has snow at its peak the year around.

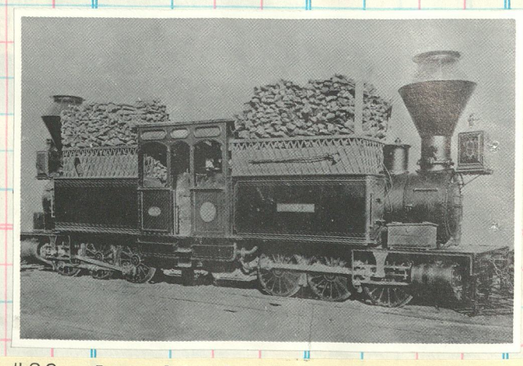
It is said that the construction of the Maltrata Incline of the Mexican Railway was one of the most difficult pieces of railway engineering attempted in North America. Because of the mountainous country through which the railroad passes from the sea level at Vera Cruz to the great Mexican plateau —a change in elevation of some 8,000 ft. in 100 miles— many severe grades and sharp curves are encountered. A change of 4,000 ft. in elevation is made in the 30-mile section which is now being electrified.



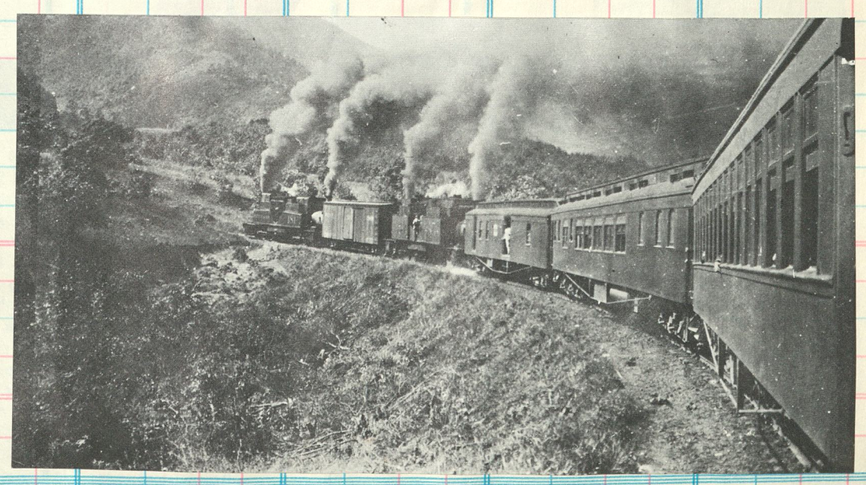


FAIRLIE locomotive with an Aztec name, *Tezuitlan*, ran on a British-owned railway between Vera Cruz and Mexico City

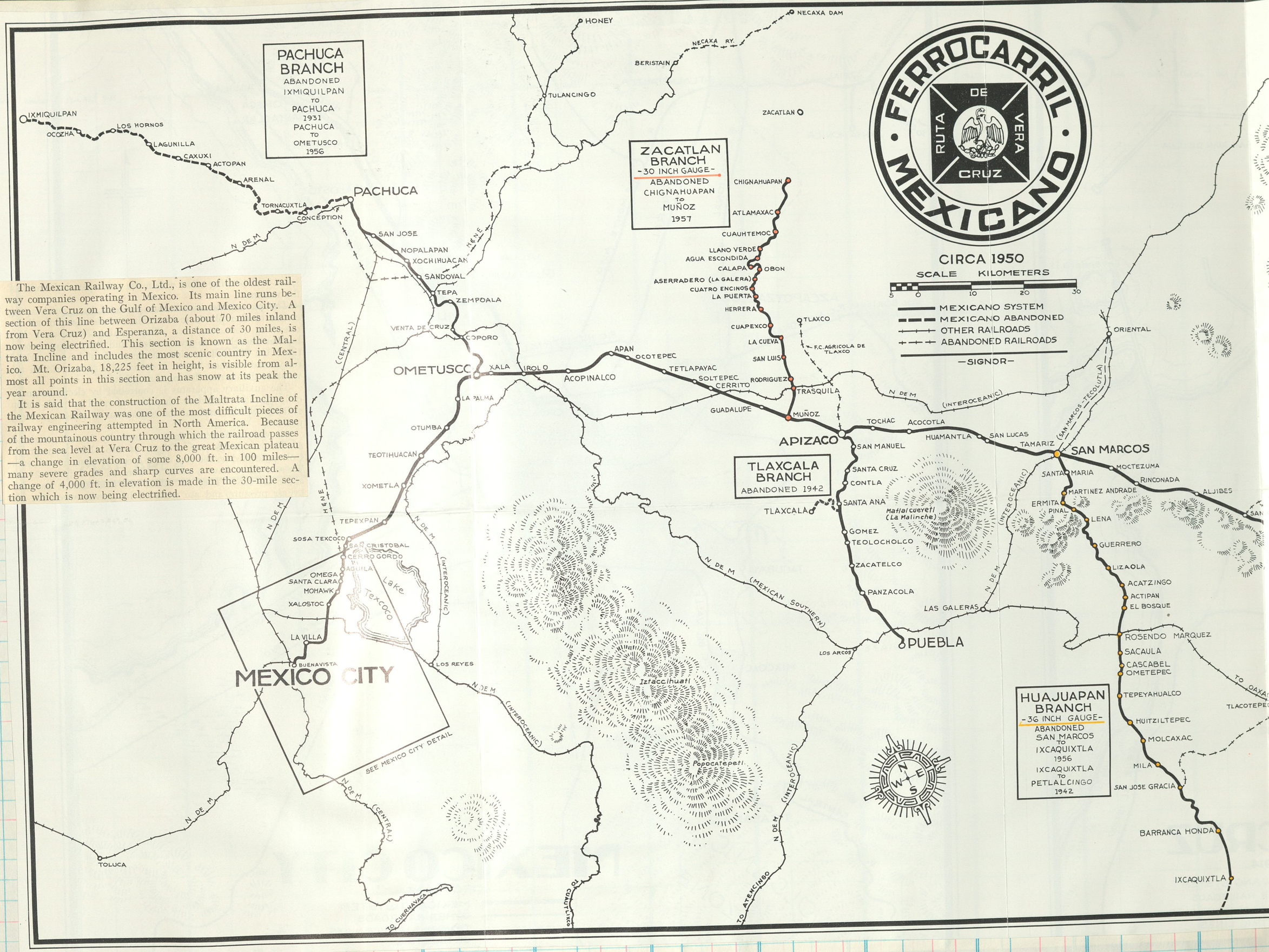
#46 was built in 1883 by Neilson c/n 2875



#28, four b1t by Avonside in 1873 noed 28-31 0-6-0=0-6-0 c/n 950/951 The fireboy earned his pay feeding this ol' girl!



Fairlies #181 & 182, 0-6-0-0-6-0T No British 1907 c/n's 18315-16, assault the Maltrata Incline with a westbound Passenger train near La Bota.



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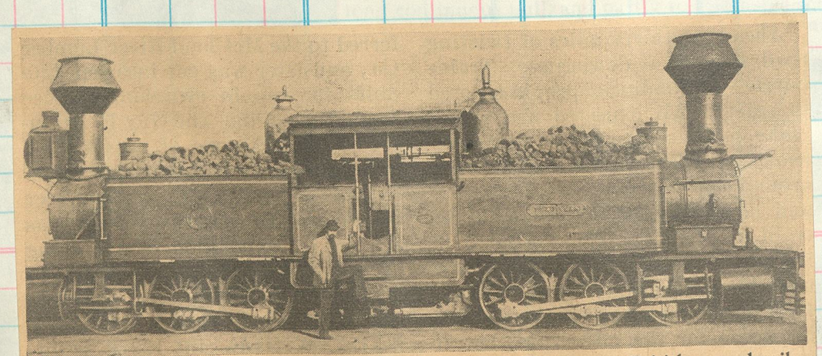

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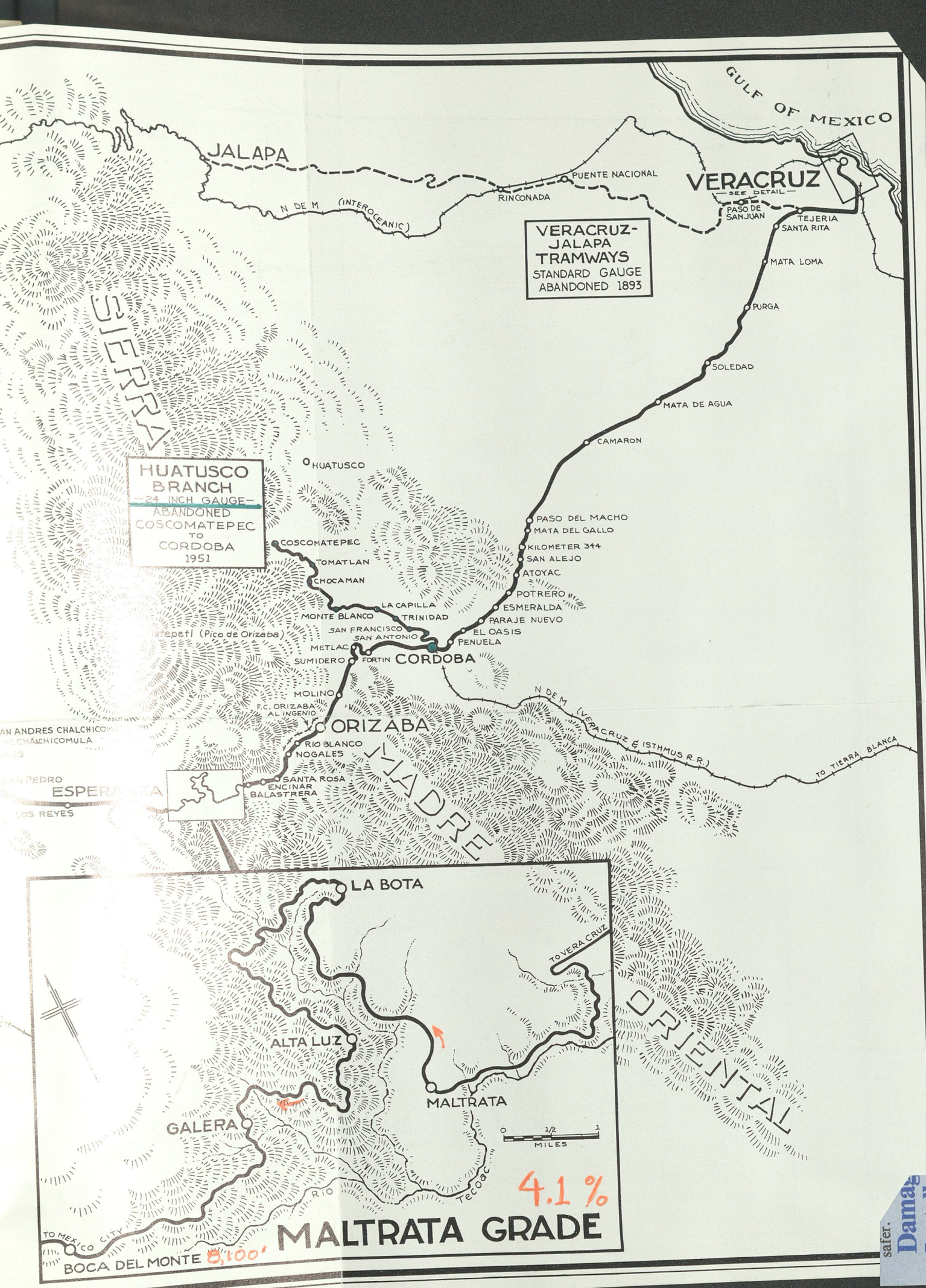

GULF OF MEXICO
JALAPA
PUENTE NACIONAL
RINCONADA
N DE M (INTEROCEANIC)
VERACRUZ
— SEE DETAIL —
PASO DE SANJUAN
TEJERIA
SANTA RITA
MATA LOMA
PURGA
SOLEDAD
MATA DE AGUA
CAMARON
VERACRUZ-JALAPA TRAMWAYS
STANDARD GAUGE
ABANDONED 1893
SIERRA
HUATUSCO BRANCH
— 24 INCH GAUGE —
ABANDONED
COSCOMATEPEC TO CORDOBA
1951
HUATUSCO
COSCOMATEPEC
TOMATLAN
CHOCAMAN
MONTE BLANCO
LA CAPILLA
TRINIDAD
SAN FRANCISCO
SAN ANTONIO
METLAC
SUMIDERO
FORTIN
CORDOBA
PENUELA
EL OASIS
PARAJE NUEVO
ESMERALDA
POTRERO
ATOYAC
SAN ALEJO
KILOMETER 344
MATA DEL GALLO
PASO DEL MACHO
MOLINO
F.C. ORIZABA AL INGENIO
ORIZABA
RIO BLANCO
NOGALES
SANTA ROSA
ENCINAR
BALASTRERA
N DE M (VERACRUZ & ISTHMUS R.R.)
TO TIERRA BLANCA
ESPERANZA
LOS REYES
MADRE
ORIENTAL
LA BOTA
TO VERA CRUZ
ALTA LUZ
MALTRATA
GALERA
RIO Tecoac
TO MEXICO CITY
BOCA DEL MONTE 5,100'
0 1/2 1 MILES
4.1 %
MALTRATA GRADE

SELLER
DATE
FORM DESTINATIO

Amount | Clos.No. | Sold | Amount

RAILWAY REVIEW

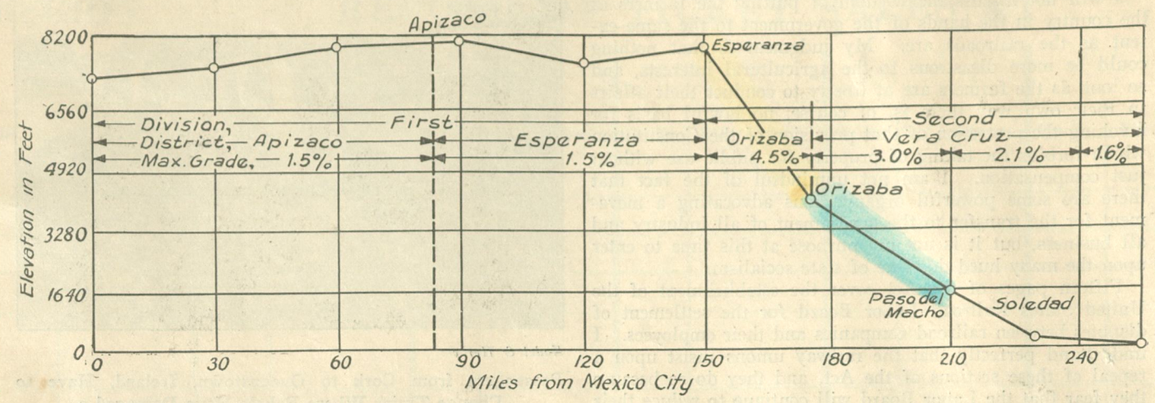
Electrification levels the Maltrata Incline

The Maltrata Incline, which was one of the most remarkable feats of railroad engineering in North America, is now operated electrically. Many sharp curves—12 to 15 degrees—and unusual grades characterize this Division of the Mexican Railway which rises 4000 feet in only 30 miles, with ruling grade 4.7%.

General Electric furnished all the equipment necessary for this initial electrification, for which the 3000-volt D-C. System was selected.

The operating results—costs lowered, tonnage increased, schedules shortened—have even exceeded expectations.

December 5, 1925



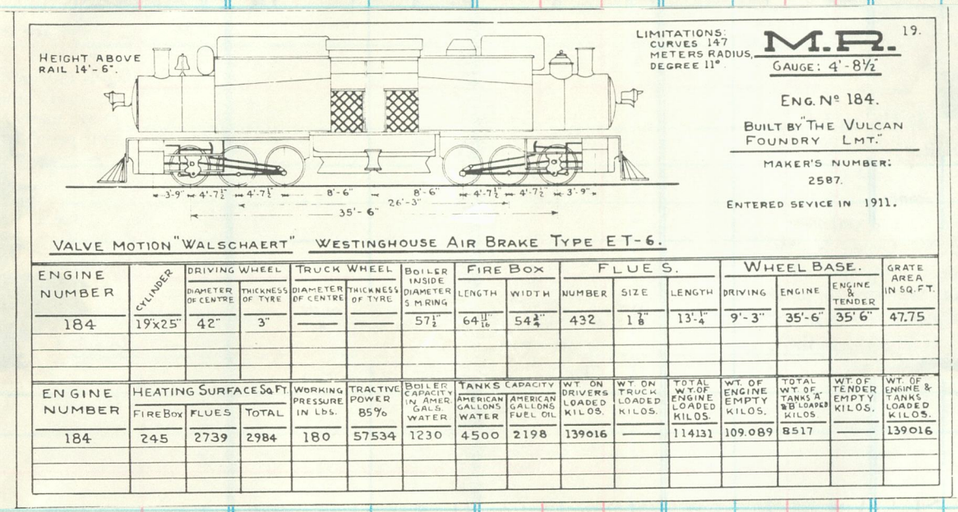
Profile, Showing Divisions and Districts

Electrified eff October 1924
Electrified eff May 1928

November 18, 1922 RAILWA

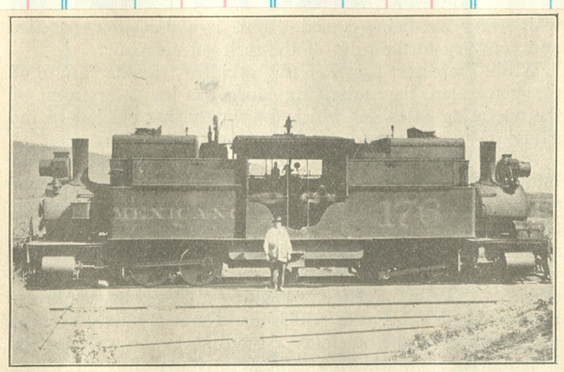
Mexican Railway to Electrify Thirty Miles of Main Line

THE International General Electric Company has received an order from the Mexican Railway Company, Ltd., of Mexico City for the electrification of 30 miles of single track between Orizaba and Esperanza which is on the main line between Mexico City and Vera Cruz. The approximate cost of the electrification project will be between $2,000,000 and $2,500,000.



ENGINE NUMBER	CYLINDER	DRIVING WHEEL DIAMETER OF CENTRE	DRIVING WHEEL THICKNESS OF TYRE	TRUCK WHEEL DIAMETER OF CENTRE	TRUCK WHEEL THICKNESS OF TYRE	BOILER INSIDE DIAMETER S MRING	FIRE BOX LENGTH	FIRE BOX WIDTH	FLUES NUMBER	FLUES SIZE	FLUES LENGTH	WHEEL BASE. DRIVING	WHEEL BASE. ENGINE	WHEEL BASE. ENGINE & TENDER	GRATE AREA IN SQ.FT.
184	19"x25"	42"	3"	——	——	57½"	64 11/16"	54 3/4"	432	1 7/8"	13'-1"	9'-3"	35'-6"	35'6"	47.75

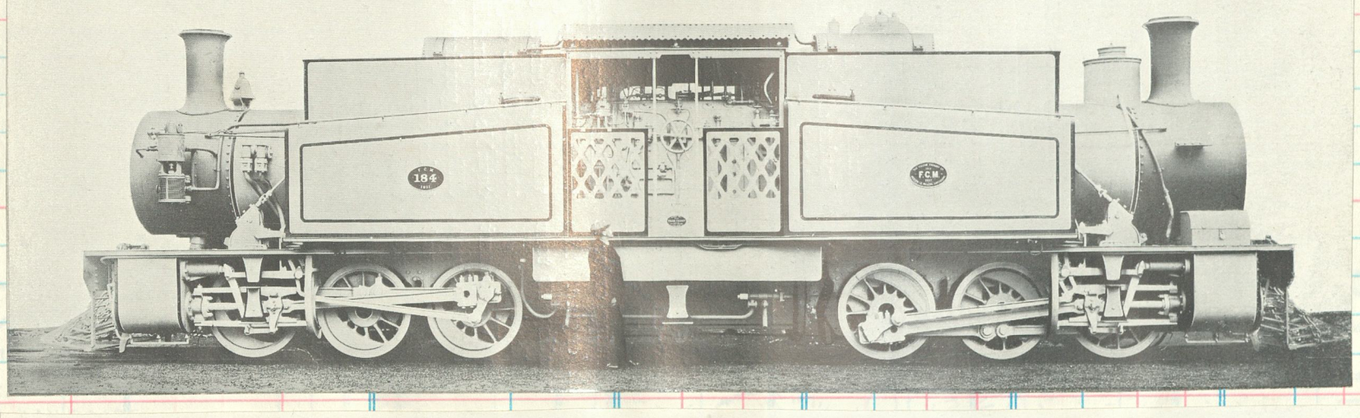
ENGINE NUMBER	HEATING SURFACE Sq.FT. FireBox	FLUES	TOTAL	WORKING PRESSURE IN LBS.	TRACTIVE POWER 85%	BOILER CAPACITY IN AMER. GALLS. WATER	TANKS CAPACITY AMERICAN GALLONS WATER	AMERICAN GALLONS FUEL OIL	WT. ON DRIVERS LOADED KILOS.	WT. ON TRUCK LOADED KILOS.	TOTAL W.T. OF ENGINE LOADED KILOS.	WT. OF ENGINE EMPTY KILOS.	TOTAL WT. OF TANKS & WATER LOADED KILOS	WT. OF TENDER EMPTY KILOS.	WT. OF ENGINE & TANKS LOADED KILOS.
184	245	2739	2984	180	57534	1230	4500	2198	139016	——	114131	109.089	8517	——	139016



Double-Ended, Oil-Burning Steam Locomotive Which Will Be Supplanted by Electric Motive Power

One of the six, #171-176, 0-6-0=0-6-0 Fairlies blt by North British in 1904 c/n 16542

Fairlie, Vulcan (Eng) 1911 c/n 2587 183-185

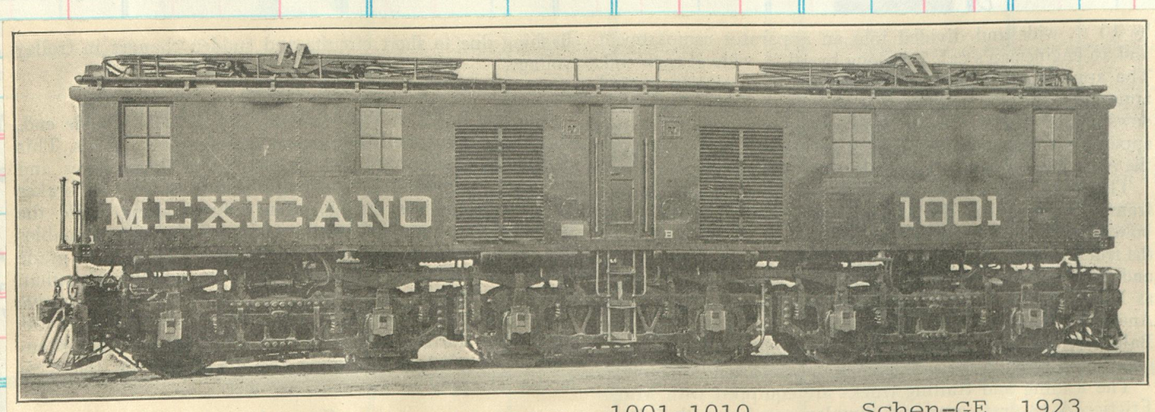


A HEAVY POWERFUL "FAIRLIE" LOCOMOTIVE, BUILT FOR THE MEXICAN RAILWAY.

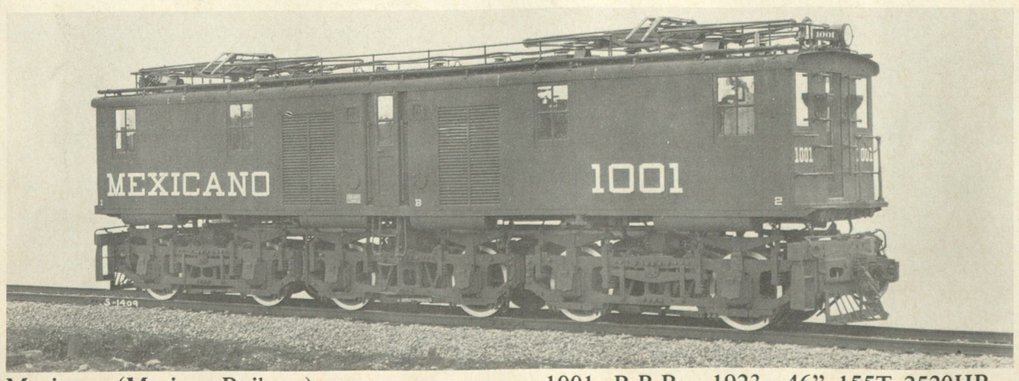
It weighs 138 tons. The photograph shows the disposition of the driving wheels on two bogies and the driver's position on the footplate. Comparison with the man conveys an impressive idea of its large proportions.

Firley Type of Engine, Before Electrification.

The final group of Fairlies. Between 1871 and 1911 the F C M put in service fifty one similar engines.



One of the Ten Electric Locomotives being Built for the Mexican Railways 1001-1010 Schen-GE 1923

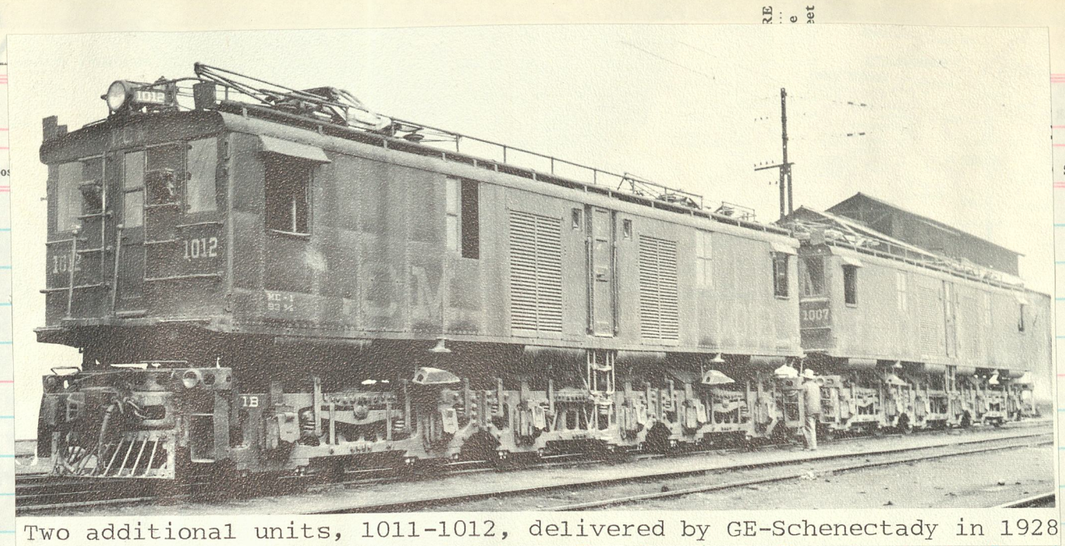


Mexicano (Mexican Railway) 1001 B-B-B 1923 46" 155T 2520HP

Total

Electric Passenger Train at Maltrata.

Freight Train Near Alta Luz.



Two additional units, 1011-1012, delivered by GE-Schenectady in 1928

Line shows electrified tracks ascending part of Maltrata Incline. Orizaba Peak in background.

Over this mountain
electric power speeds Mexican trains

This is another mountain which electric power has conquered. Over its rugged slopes with many tunnels, around curves of 12 to 15 degrees and up 4 to 5% grades, electric locomotives are making notable operating records.

This division of the Mexican Railway is saving money—saving in time, saving in labor, saving in maintenance, because one electric locomotive replaces two steam engines, moves more tonnage, and makes better time.

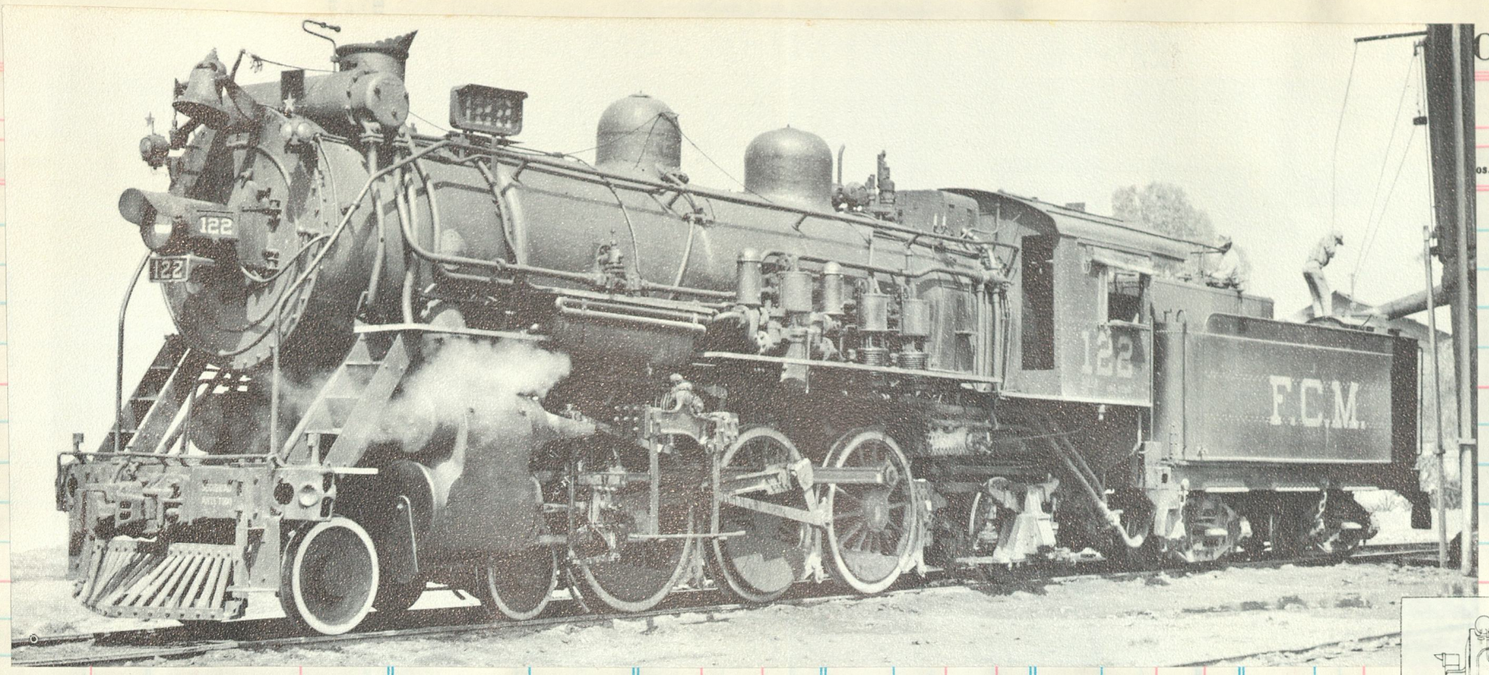
Such performance smooths out many of the difficulties of railroading. Write for operating data on this and other G-E high-voltage direct-current electrifications.

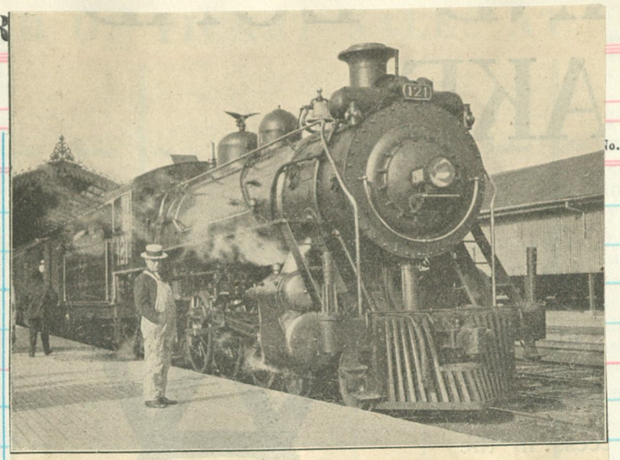
13-87

GENERAL ELECTRIC

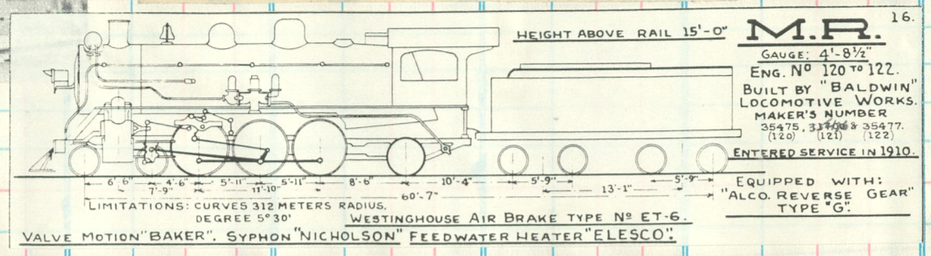
GENERAL ELECTRIC COMPANY, SCHENECTADY, NEW YORK

SALES OFFICES IN ALL PRINCIPAL CITIES

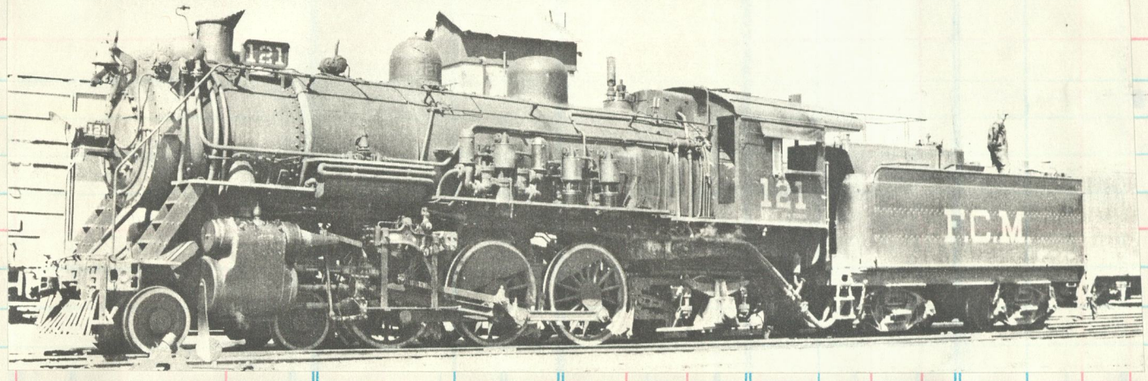




This locomotive is now in daily passenger service between Mexico City and Esperanza, making 490 kilometers (about 304 miles) each 24 hours.



The initial 4-6-2's for the F C M was three delivered by Baldwin in 1910 noed 120-122, c/n's 35475-35477. Here, approaching a half century of service, is evidence of excellent shopping and maintenance.



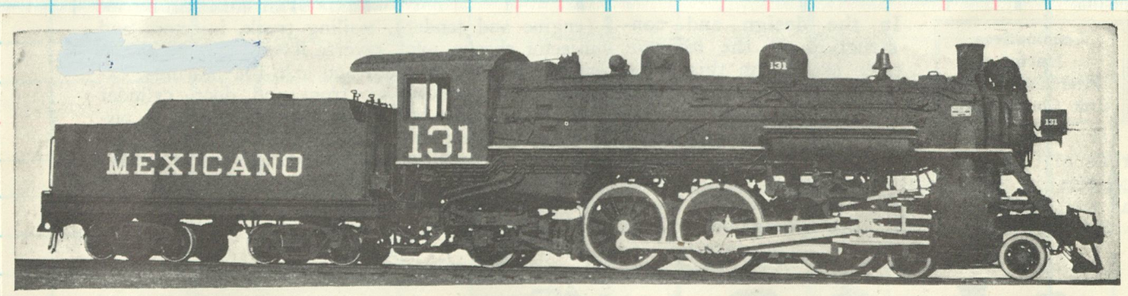
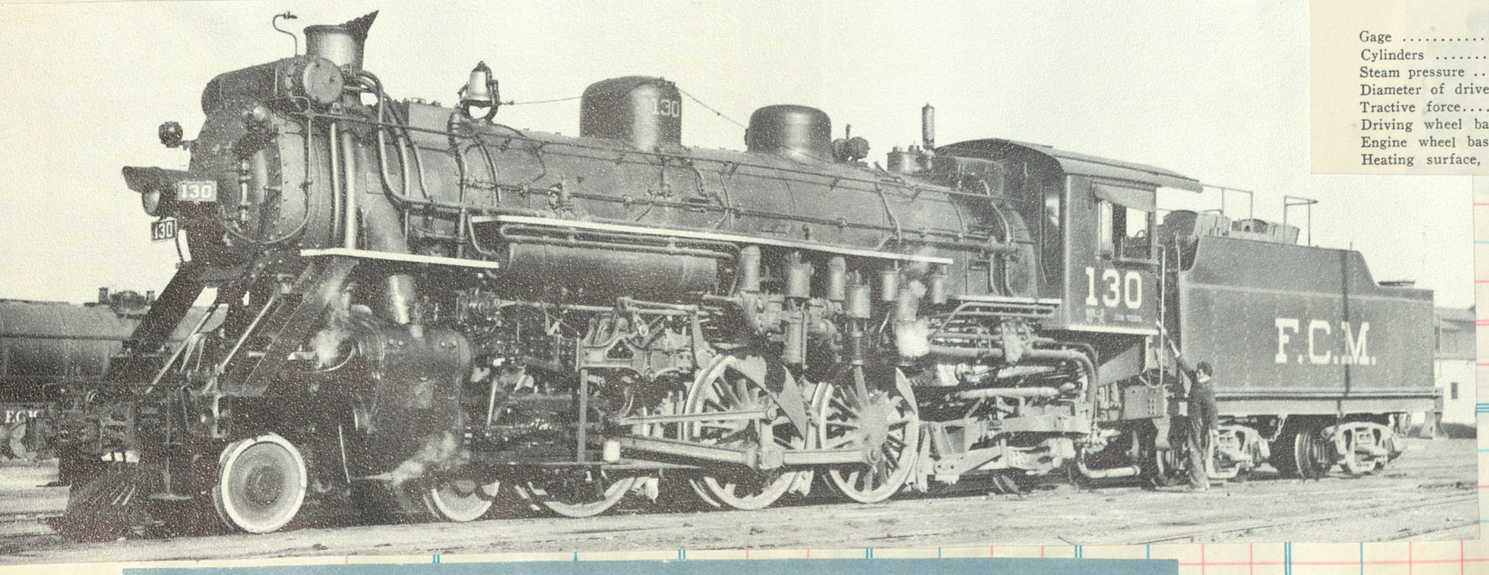
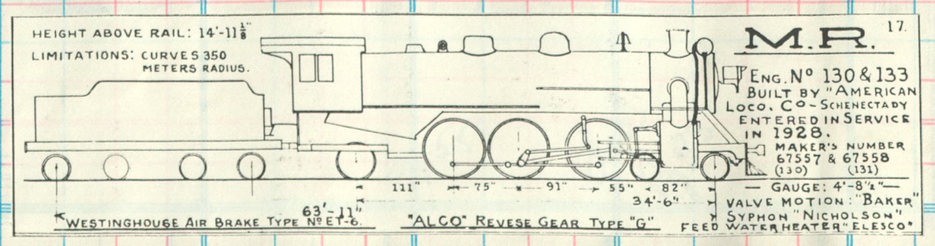


Fig. 3335—Three-Cylinder Pacific (4-6-2) Type Locomotive. Built for the Mexican Railway Company by the American Locomotive Company.

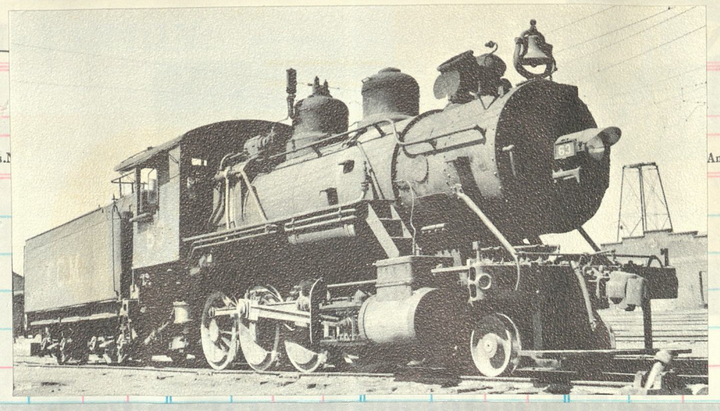
Gage	4 ft. 8½ in.	Heating surface, firebox	259 sq. ft.
Cylinders	3—20 in. x 28 in.	Heating surface, total	2,823 sq. ft.
Steam pressure	200 lb.	Superheating surface	758 sq. ft.
Diameter of drivers	63½" ~~69~~ in.	Grate area	52 sq. ft.
Tractive force	41,400 lb.	Weight on drivers	148,000 lb.
Driving wheel base	13 ft. 10 in.	Weight of engine	250,000 lb.
Engine wheel base	34 ft. 6 in.	Weight of tender	129,800 lb.
Heating surface, tubes	2,564 sq. ft.	Fuel	Oil



Three cylinder Pacifics nos 130 & 131 built by Schenectady 1927



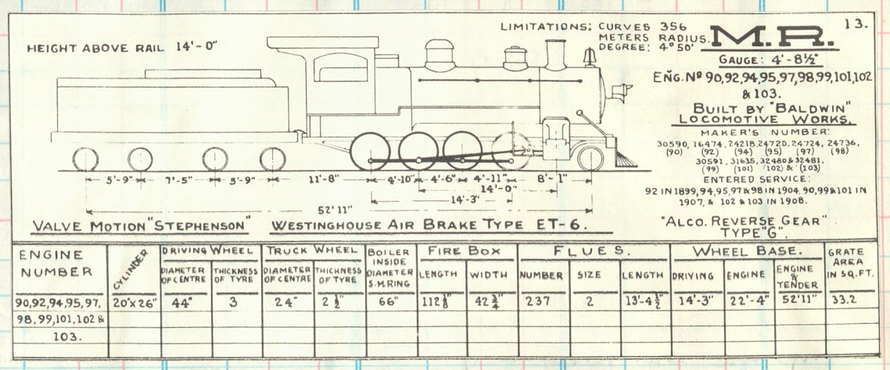
The F.C.M.'s terminal at Veracruz



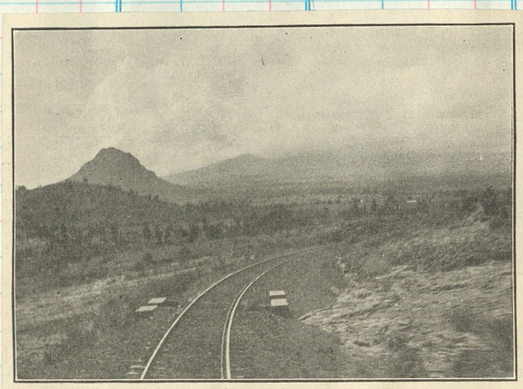
2-8-0 #63 (org #95) equipped with a "Y" stack to avoid corroding the wire in electric territory. #63 was blt by Baldwin in1904 c/n 24720.

CUT HERE ... To Make Short Sheet

Amount | Clos.No. | Sold | Amount | Clos.No. | Sold | Amount



ENGINE NUMBER	CYLINDER	DRIVING WHEEL DIAMETER OF CENTRE	DRIVING WHEEL THICKNESS OF TYRE	TRUCK WHEEL DIAMETER OF CENTRE	TRUCK WHEEL THICKNESS OF TYRE	BOILER INSIDE DIAMETER S.M.RING	FIRE BOX LENGTH	FIRE BOX WIDTH	FLUES NUMBER	FLUES SIZE	FLUES LENGTH	WHEEL BASE DRIVING	WHEEL BASE ENGINE	WHEEL BASE ENGINE & TENDER	GRATE AREA IN SQ.FT.
90,92,94,95,97, 98,99,101,102 & 103.	20"x26"	44"	3	24"	2 1/8"	66"	112 1/8"	42 3/4"	237	2	13'-4 1/2"	14'-3"	22'-4"	52'11"	33.2

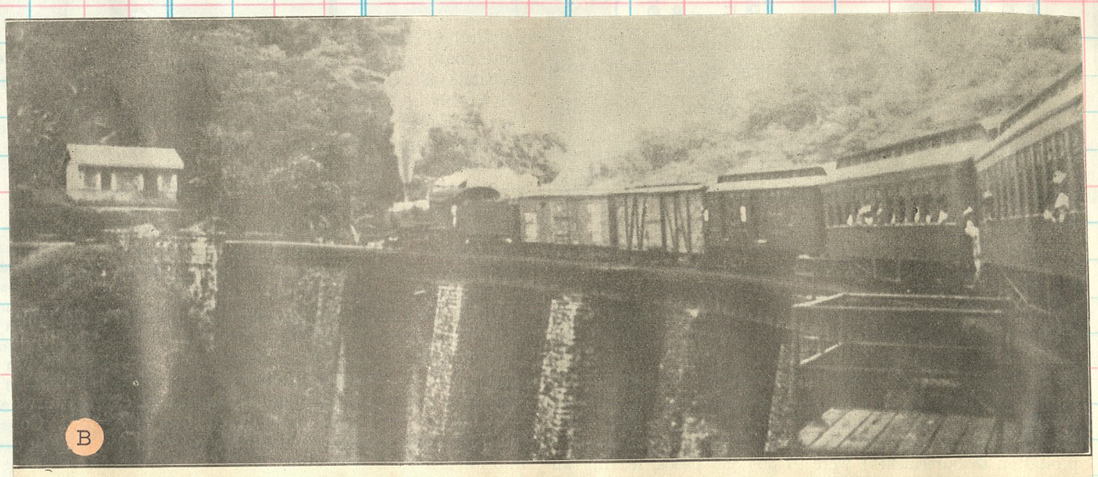


Along the Pueblo-Apizaco Line

Photo from Underwood & Underwood, N. Y.

The Metlac Bridge on the Line from Meixco City to Vera Cruz

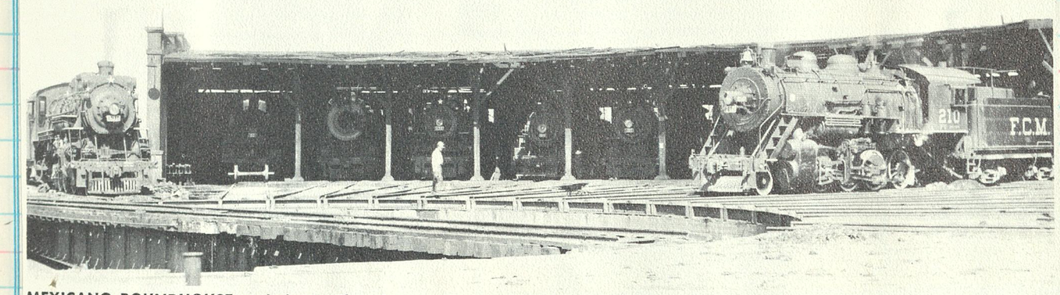
OKM



P. & A. Photo.

Railroading in Mexico

Puente de Metlac across the Metlac ravine is 450' long, 80' high and on a 325' radius curve. Located between Cordoba and Orizaba was constructed in 1872, the open piers were encased in stonework in 1912 and the line electrified in 1928. Off the bridge was a 3.9% climb westbound and 2.5% eastbound. These two clips show (A) an early view of a freight headed by a Fairlie engine and (B) of a westbound train about 1920.



MEXICANO ROUNDHOUSE at Apizaco, Tlaxcala. Gerald M. Best

The 210 with the Orizaba-Veracruz 'Mixto' under the wire at Sumidero. Snow capped Orizaba Peak [Zitlaltepetl] the highest in Mexico, 18,855', in the distance. Consolidation #210 was built as Compania Industriana Veracruzana #1 by Baldwin 1921 c/n 54855. Sold to FCM in 1922.

VERA CRUZ STREET RAILWAY • Vera Cruz, Mexico • Jim Shaughnessy

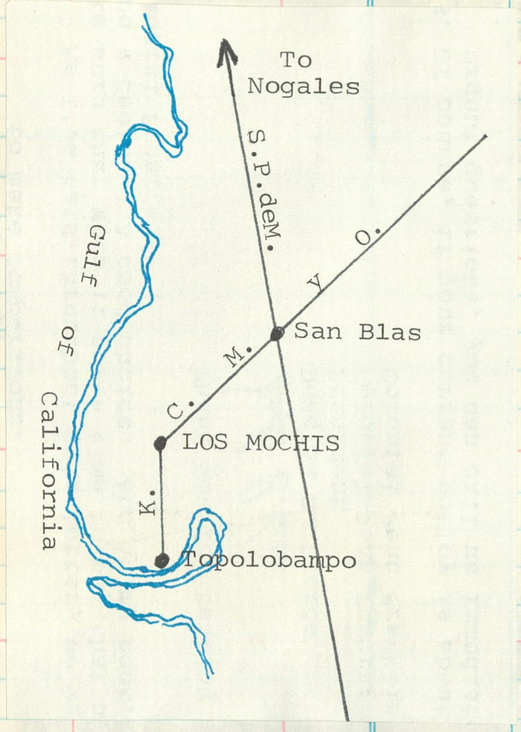
MEXICANO DEL PACIFICO

SELLER

DATE

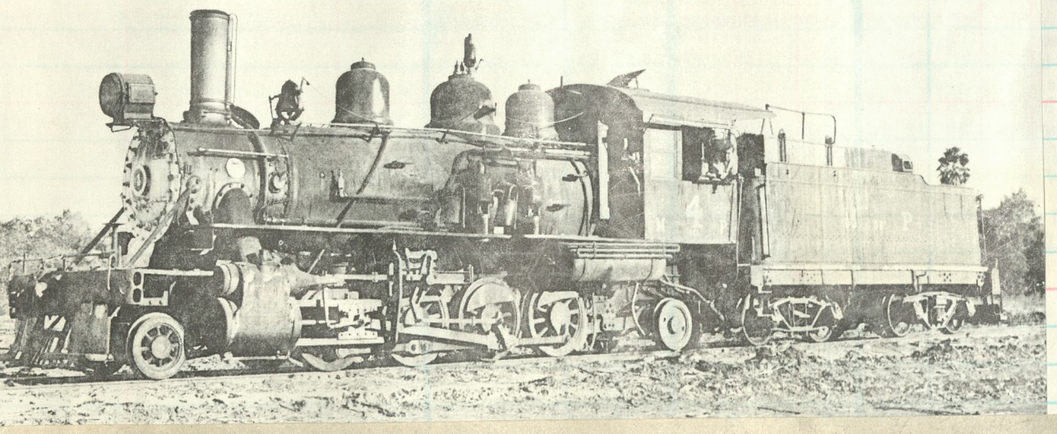
MEXICAN PACIFIC RAILROAD COMPANY, Incorporated.
(F. C. Mexicano del Pacifico, S. A.)
W. P. Briggs, General Manager, Los Mochis, Sinaloa, Mex.
Los Mochis[1] to Aguila (15 miles); branch to San Miguel (3.75 miles).
Operated for freight service only.
NOTE—Service suspended from June 1st to December 1st.
January, 1939
Connection—[1] With Kansas City, Mexico & Orient Ry.

Clos. No. | Sold | Amount | Clos. No. | Sold | Amount | Clos.No. | Sold | Amount

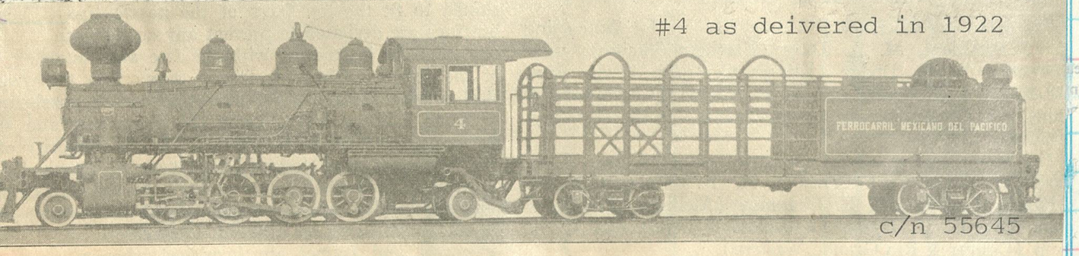


A bright morning in 1977 at the Los Mochis 'engine terminal'. #6 is about ready to go to work while #7 is taking the day off. The MdelP's traffic is hauling sugar cane over 3.5 miles six months out of the year.

B1t in 1922 as United Sugar Cos #4 by Baldwin, c/n 55645



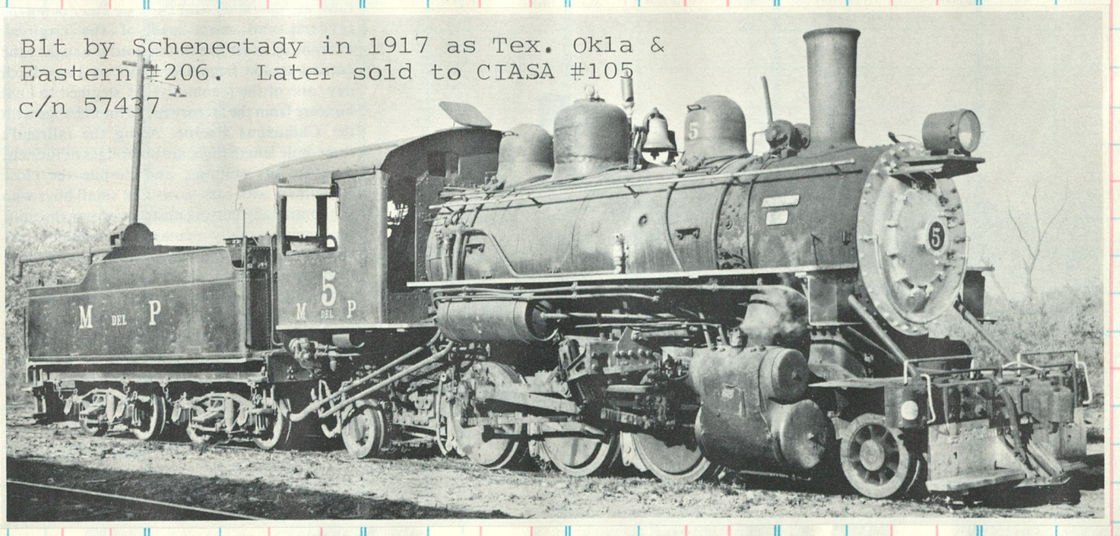
#4 as deivered in 1922



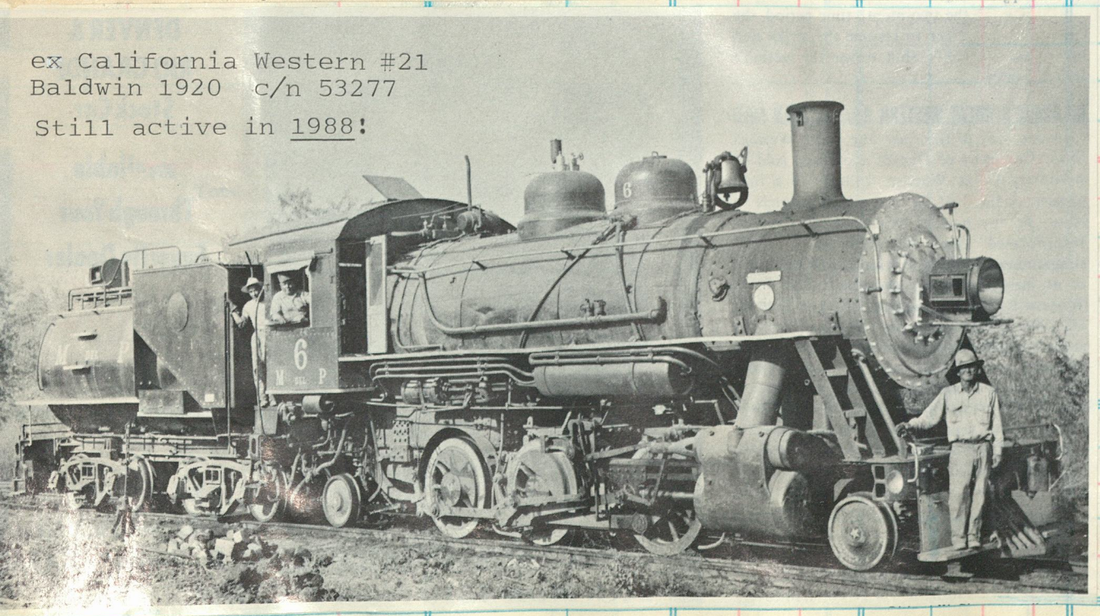
c/n 55645

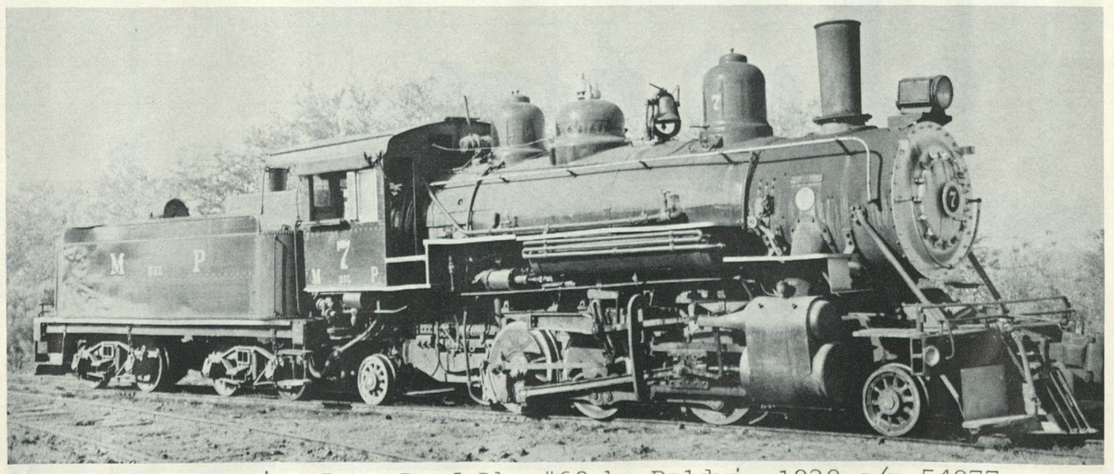
A Wood-Burner Built by the Baldwin Locomotive Works for the United Sugar Companies, Mexico

B1t by Schenectady in 1917 as Tex. Okla & Eastern #206. Later sold to CIASA #105 c/n 57437



ex California Western #21
Baldwin 1920 c/n 53277
Still active in 1988!





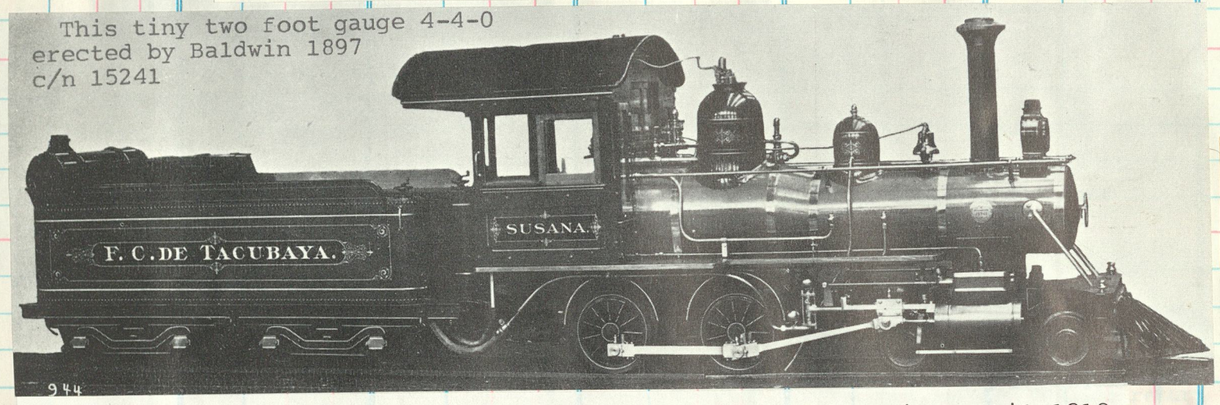
&7b1t as Calcasiau Long Leaf Lbr #68 by Baldwin 1920 c/n 54077
Sold to Long-Bell Lbr #681, then to L.P.&N. #681, to MdelP #7

Miscelaneo Mexico

Cia Mexicano de Combustibles 911-914 c/n 54768
Baldwin 1921
to NdeM 834, 1240

c/n 18104

Baldwin 1900
To Sou Pac
#2282 in 1909
Ret 1928

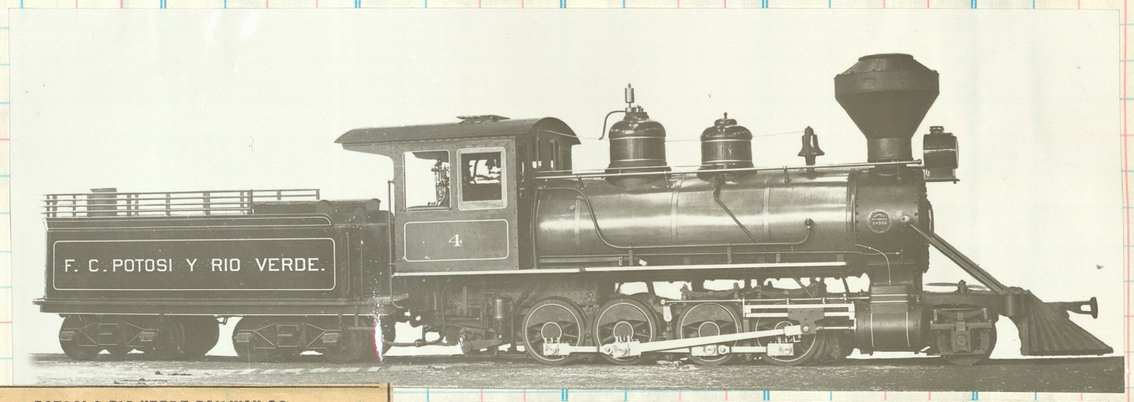


This tiny two foot gauge 4-4-0
erected by Baldwin 1897
c/n 15241

Ran over a mile of track in the Tacubaya district Mexico City until 1910

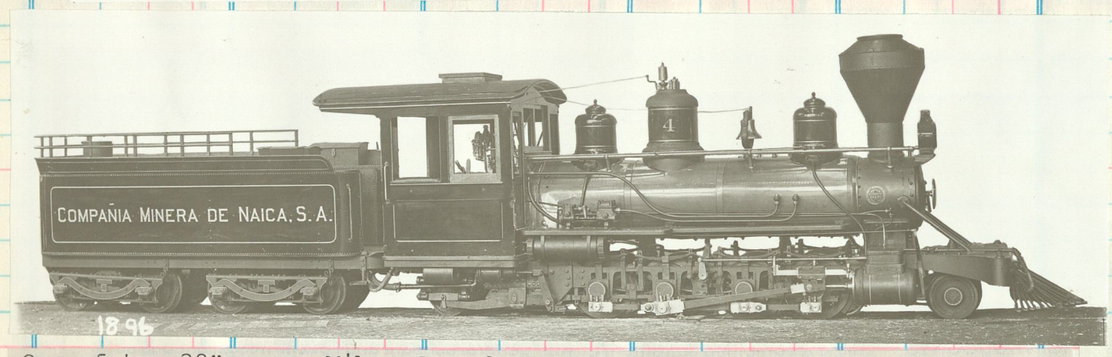
CHIHUAHUA MINERAL RAILWAY
MANUEL O'REILLY, General Manager, Chihuahua, Mexico
Train leaves **Chihuahua**[1] *k*2 00 p.m., arrives Santa Eulalia (22 miles) 3 20 p.m. Leaves Santa Eulalia *k*4 00 p.m. arrives Chihuahua 5 10 p.m.
k Saturday only. *Central time.* *January*, 1939.
Connections.—[1] With National Rys. of Mexico, Mexico Northwestern Ry. and Kansas City, Mexico & Orient Lines in Mexico.

In a 'sight to stir the soul' F. C. Mineral de Chihuahua #7 charges across the desert over three foot gauge rails with empty ore cars for Santa Eulalia. #7 was built at Baldwin 1925, c/n 58530, as Thunder Lake #5. Acquired by FCMdeC in 1953 and was still working in 1968.

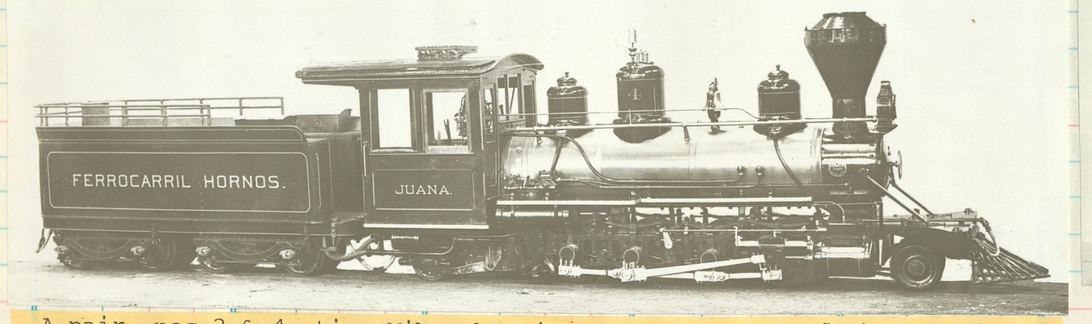


POTOSI & RIO VERDE RAILWAY CO.
R. M LEECH, Superintendent, San Luis Potosi, Mex.
Train leaves **San Luis Potosi**[1] *a*6 00 a.m., arriving Canon Verde (36 miles) 9 15 a.m. Leaves Canon Verde *a*9 45 a.m., arriving San Luis Potosi 1 00 p.m. *February*, 1939.
a Wednesday only. *Central time.*
Connection.—[1] With National Rys. of Mexico.

Built by Baldwin in 1904 c/n 24306 gauge 3'
Later sold to the Chihuahua Mineral.

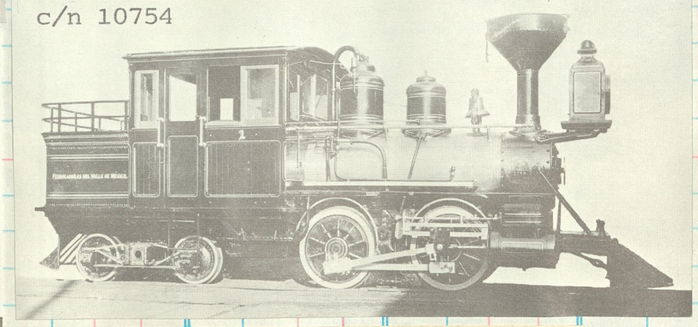


One of two 30" gauge Mikes for the Conchos Ry (CMdeN) built by Baldwin in 1904 c/n 24331

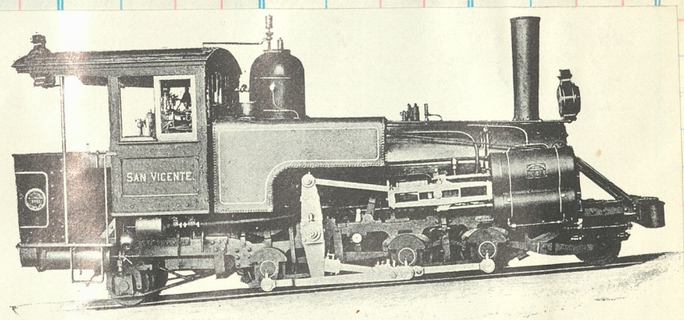


A pair, nos 3 & 4, tiny Mikes blt in 1903 by Baldwin [c/n 21825] for the Hacienda de Hornos, 32 miles. These were the only two foot gauge 2-8-2's to operate in North America.

Valle de Mexico #1 Baldwin 1890
c/n 10754



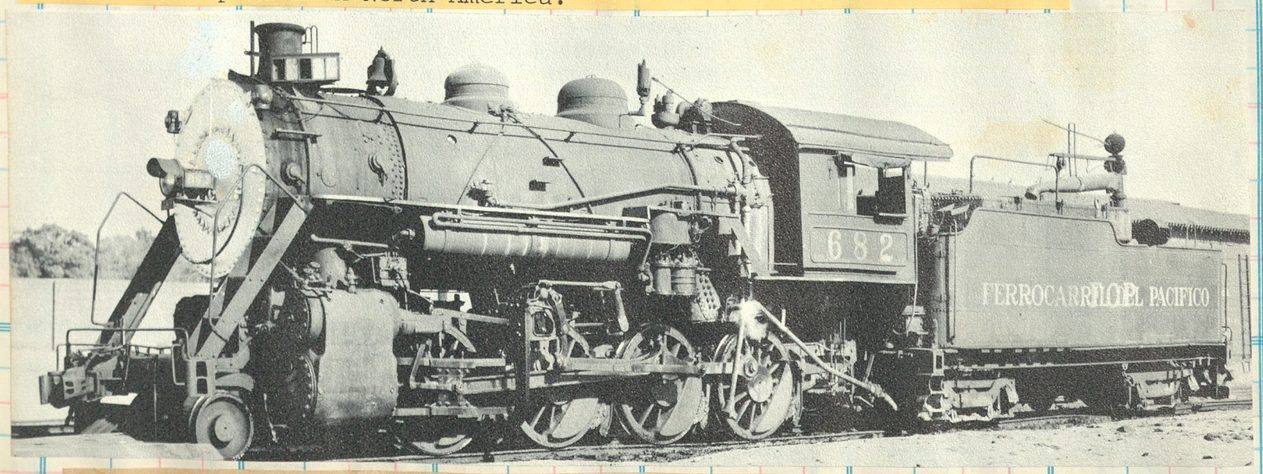
A seven mile street railway, 3' gauge, in Mexico City



Baldwin 1898

RACK AND ADHESION LOCOMOTIVE, CIA MINERA DE PEÑOLES, MEXICO.

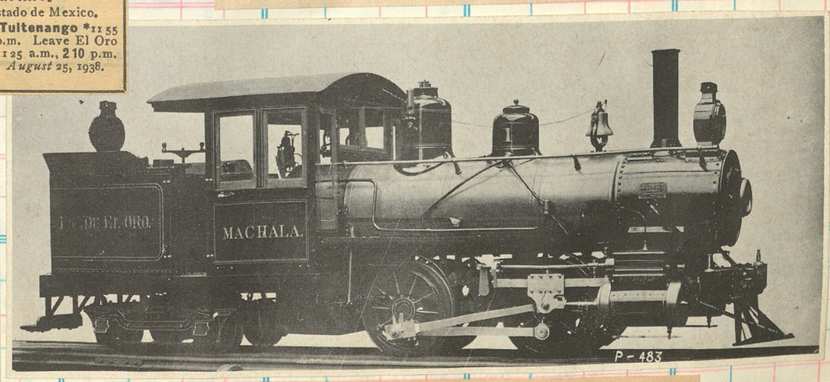
Penoles Mining Co [Ferrocarril Mapimi] 26 miles, 30" gauge, in Durango state had a 3 mile branch with grades up to 13.5% laid with the Abt rack system. #3, "San Vicente" blt by Baldwin had c/n 15653.



In the early Fifties the FdelP acquired some 35 former StL-SW 2-8-0's. The 682 was former StL-SW #583 blt by Baldwin 1916 c/n 44632.

EL ORO MINING AND RAILWAY COMPANY.
G. M. WASTENEYS, General Manager, El Oro, Estado de Mexico.
Tultenango[1] to El Oro (6.2 miles). Trains leave **Tultenango** *11 55 a.m., *2 35, *9 20 p.m., arrive El Oro 12 25, 3 05, 9 45 p.m. Leave El Oro *5 30, *11 00 a.m., *1 45 p.m., arrive Tultenango 5 50, 11 25 a.m., 2 10 p.m.
*Daily. *Central time.* *August* 25, 1938.
Connection.—[1] With National Rys. of Mexico

El Oro Mining & Ry., 36" gauge, operated 65 miles. Taken over by the NdeM in 1942 and s.g.ed in 1949.

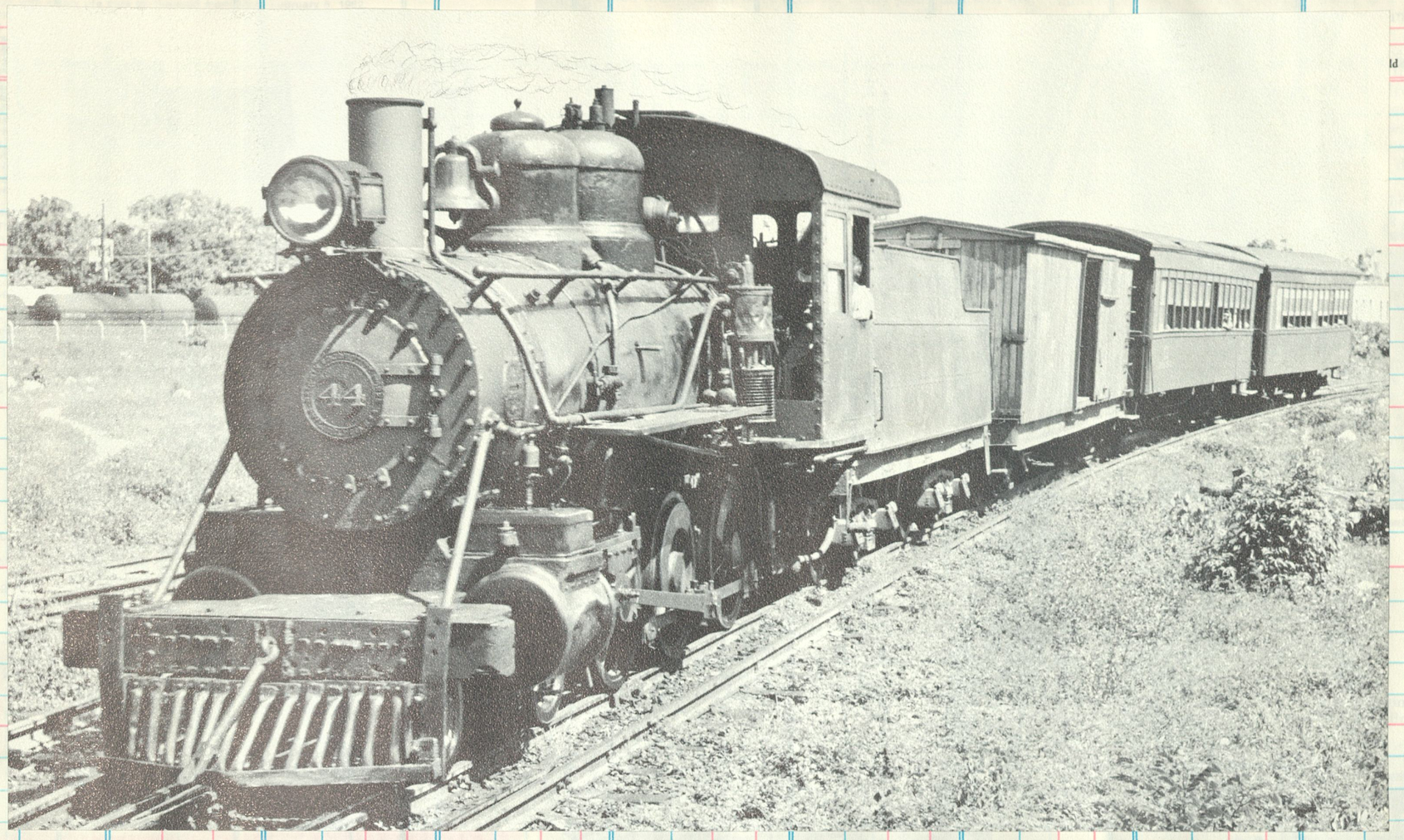


#1 MACHALA c/n 1842 Pittsburgh 1899

34

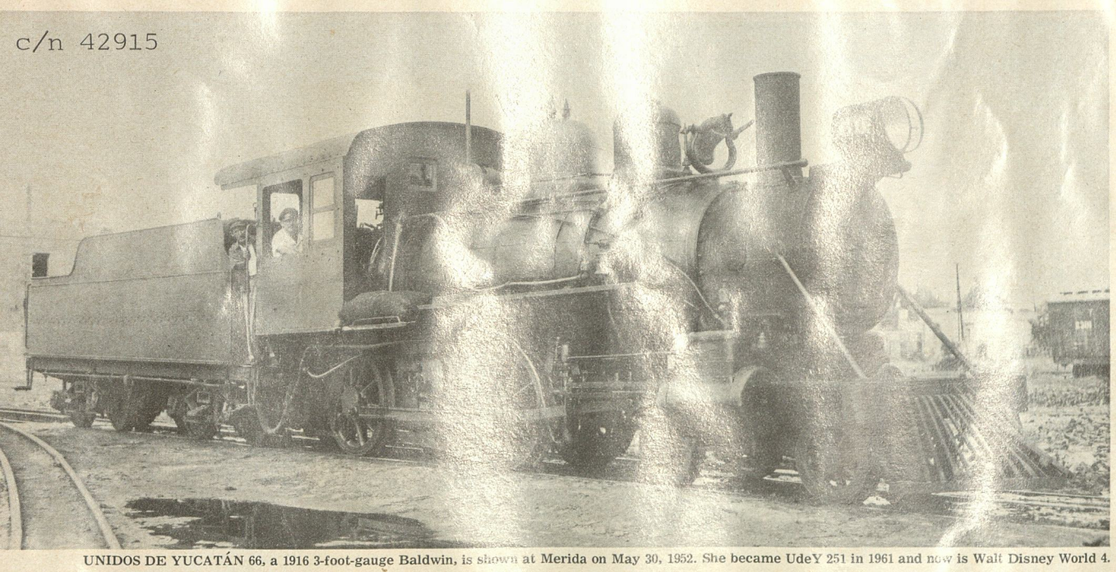
SELLER
DATE
FORM | DESTINATION | Amt. | Com. No. | ld | Amount | Clos.No. | Sold | Amount

Ferrocarril Unidos de Yucatan



Under a blazing midday sun Ten wheeler #44 glides along with a three car consist in outskirts of Merida. One of five, 41-45, blt by Baldwin in 1904 c/n 23758.

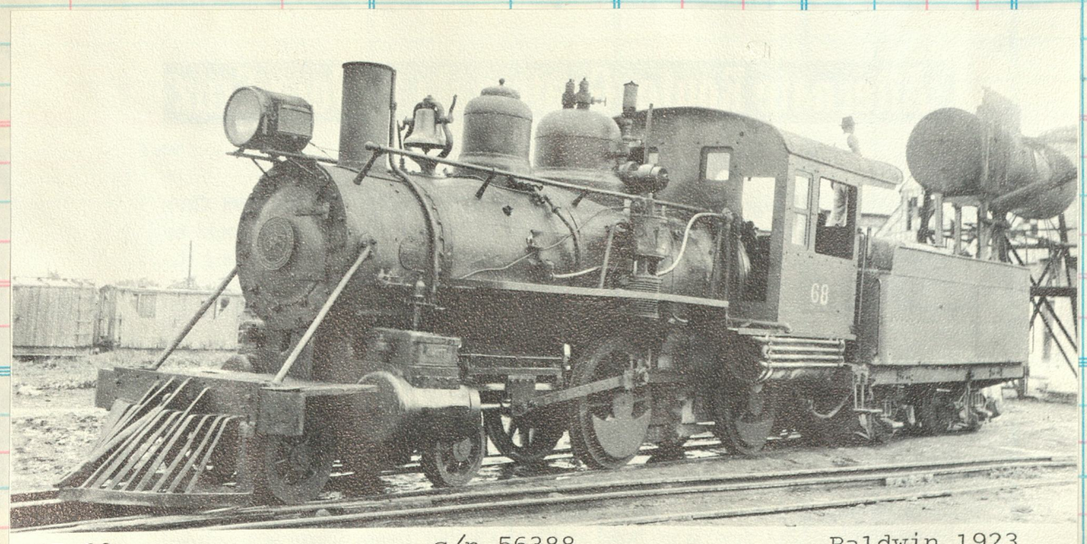
c/n 42915



UNIDOS DE YUCATÁN 66, a 1916 3-foot-gauge Baldwin, is shown at Merida on May 30, 1952. She became UdeY 251 in 1961 and now is Walt Disney World 4.

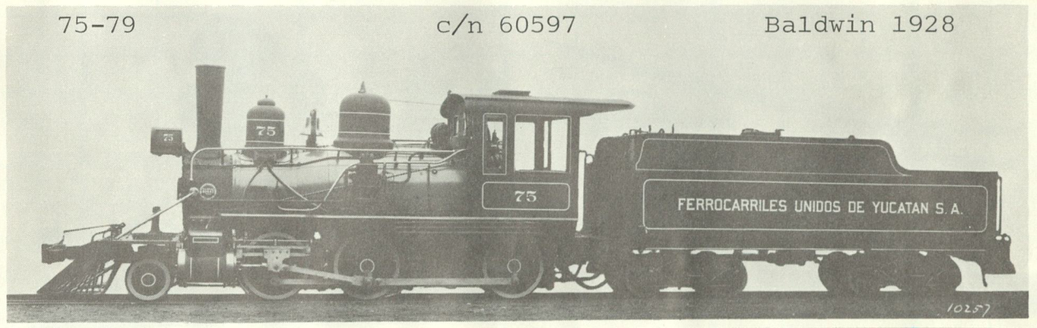
Future Disneyland star

URING a locomotive photography trip in Yucatán, Mexico, in 1952, mployees at the Merida engine terminal obligingly set out for me or pictures — one at a time — all the engines which could move nder their own power. Among these engines was a handsome aldwin 4-4-0 with a link-and-pin coupler on the pilot and a crosshead pump, features which seemed incongruous among such items as an electric headlight and a steel cab. But in 1952 little did I know that 17 years later this engine and four mates would be given new life. This American type and four Yucatán sisters were purchased for the Walt Disney World Railroad and shipped to Florida for reconditioning at the Tampa Ship Repair & Dry Dock Co. They now provide all the motive power for the 1½-mile 3-foot-gauge railroad at the new Florida amusement-park complex.

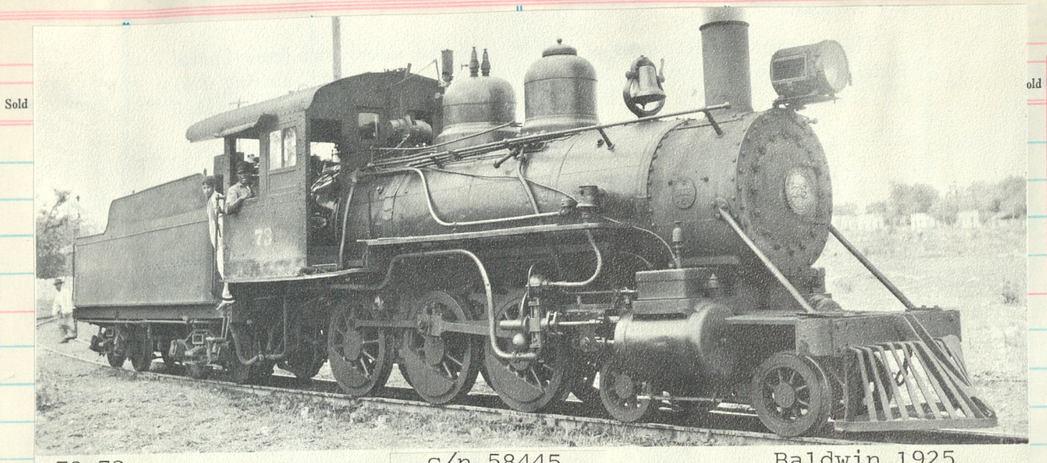


67-68 c/n 56388 Baldwin 1923

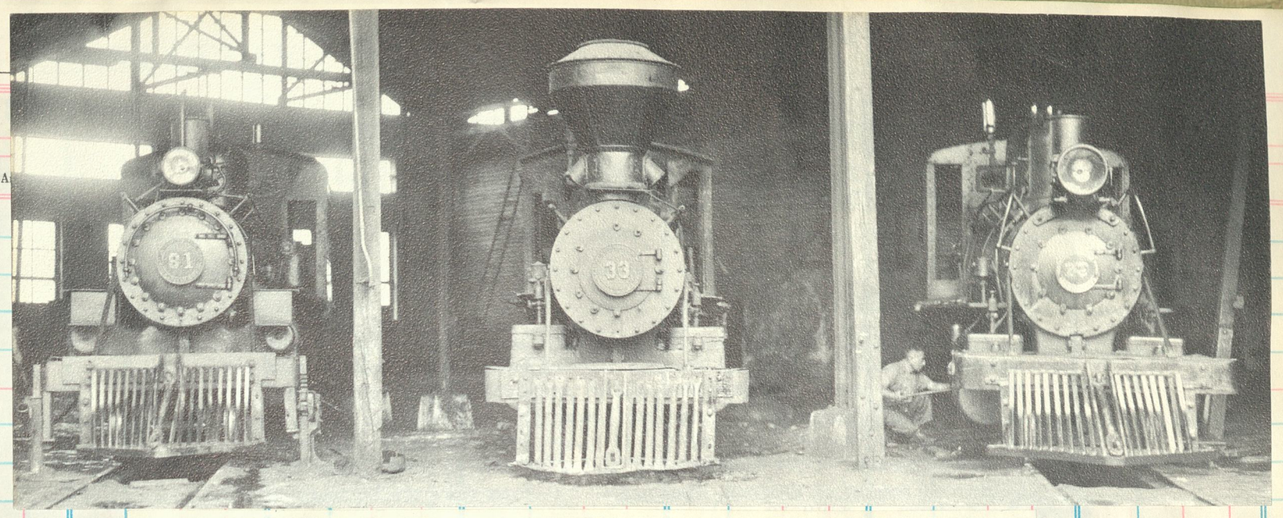
75-79 c/n 60597 Baldwin 1928



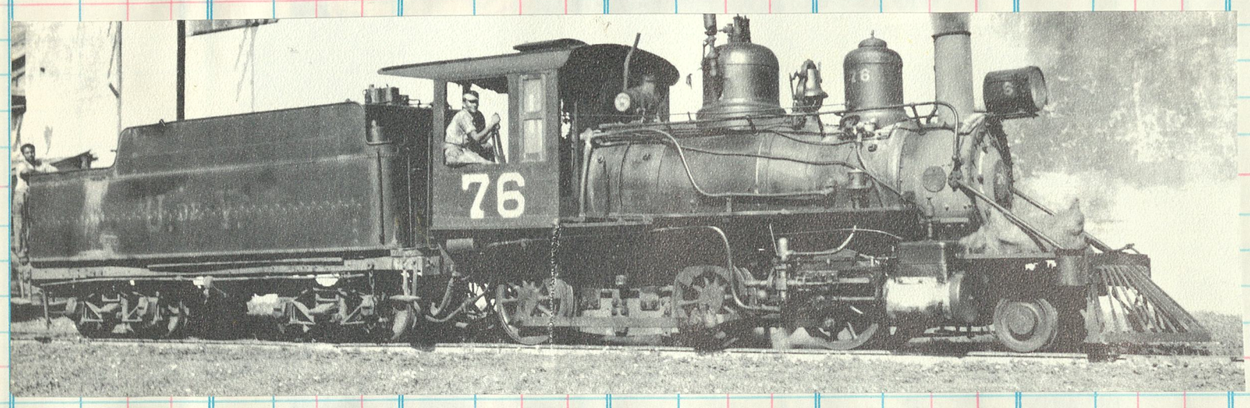
#75 casts off from the Merida train shed.



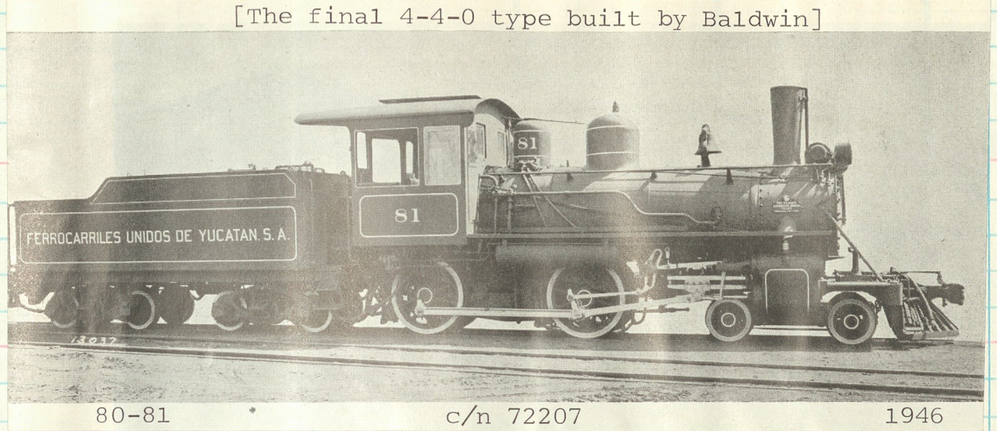
72-73 c/n 58445 Baldwin 1925



L to R-#81, 33, 79 relax in the Merida enginehouse

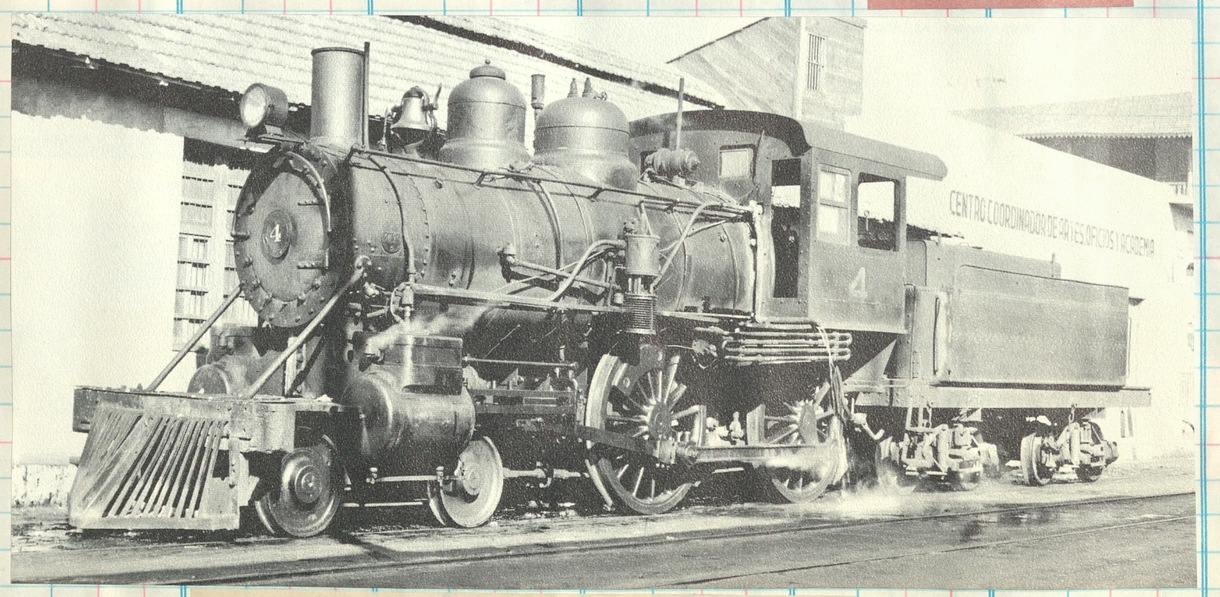


[The final 4-4-0 type built by Baldwin]



80-81 c/n 72207 1946

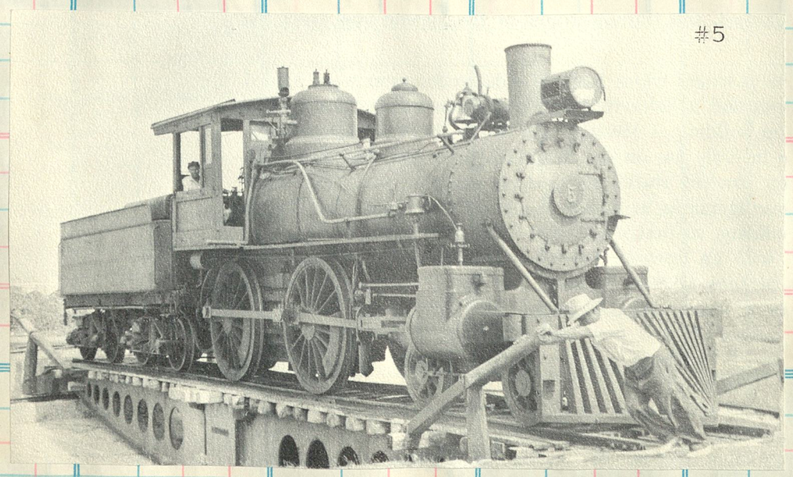
STANDARD GAUGE



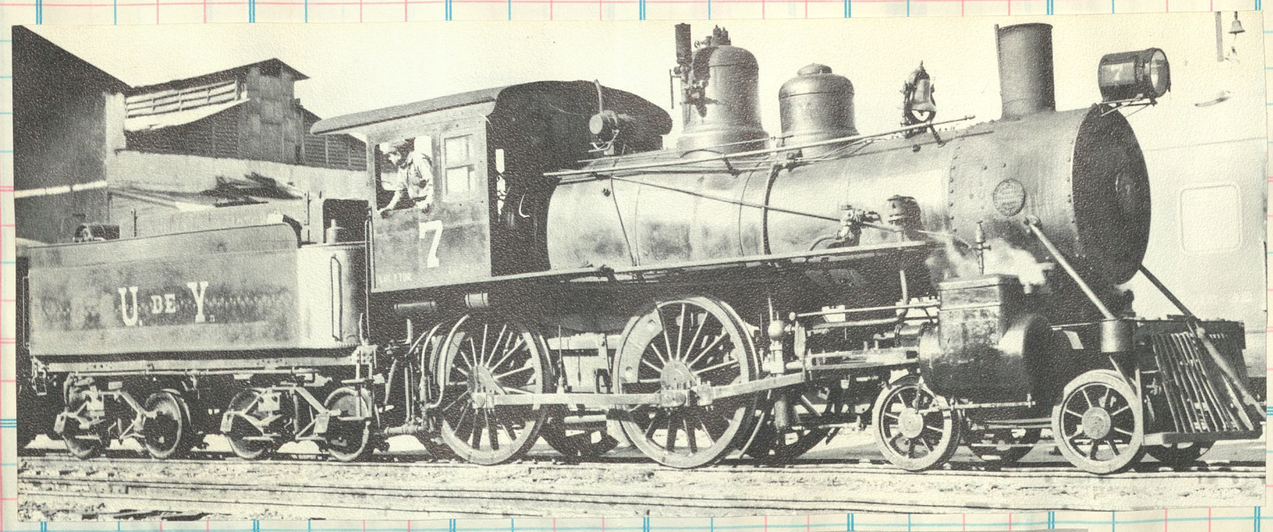
Baldwin delivered #4 in 1914 c/n 41676

Merida terminal c 1920

#5



Records indicate #5 built by UdeY in 1904 ?? !!



Built for the G. Amsinck & Co. by Baldwin c/n 8846 in 1887

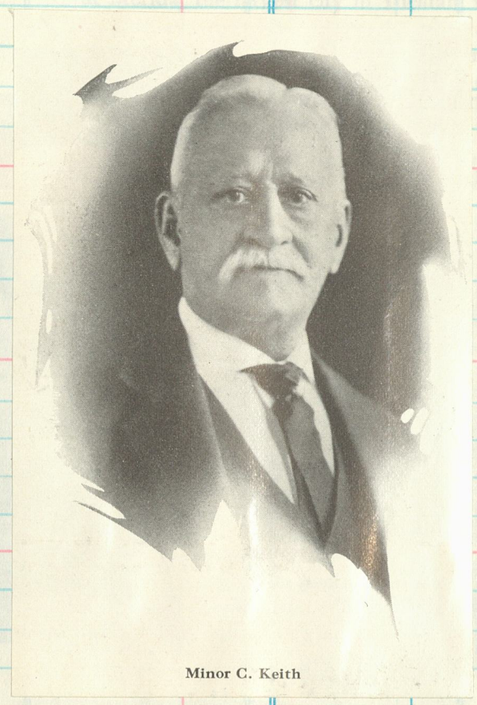
36

FERROCARRILES INTERNACIONALES DE CENTRO AMERICA

International Railways of Central America

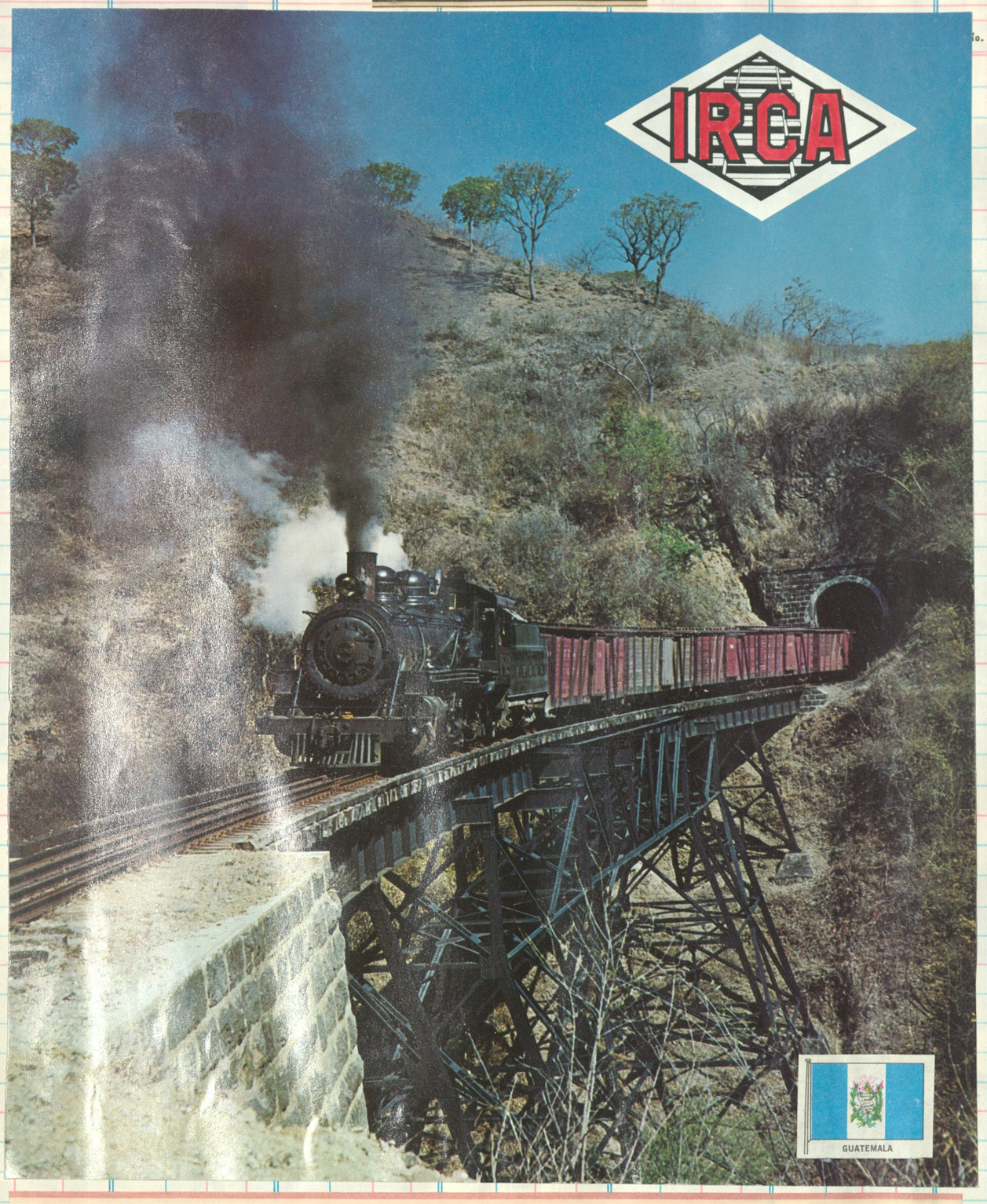
GUATEMALA

Three foot gauge



Minor C. Keith

Officer of the United Fruit Company, promoter and developer of the Railroads in Guatemala. His efforts resulted in the IRCA system.



The enchanting spirit of the narrow gauge!! In this impressive scene a determined 2-8-2 [#182 Baldwin 1946] comes swaggering up the grade with tonnage for Zacapa.

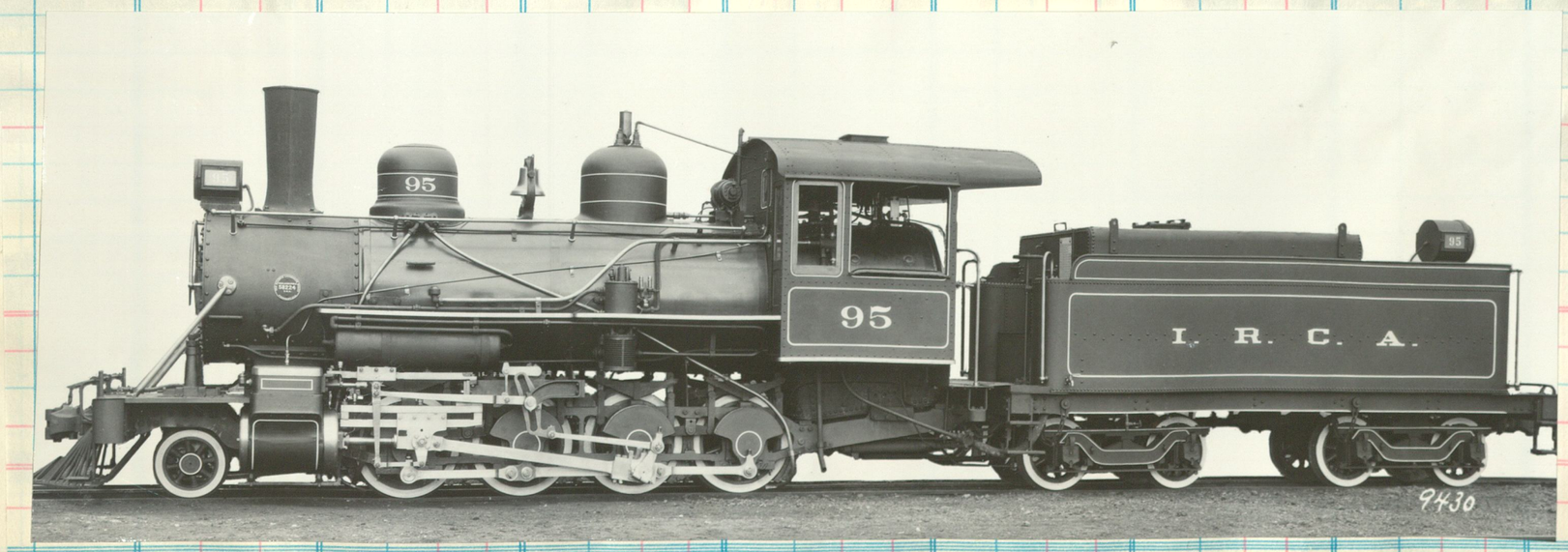
YEAR 1925

	Tons of Freight	Per Cent of Whole	Revenue	Per Cent
Bananas	146,607	19.15	$790,000	17.0
Other exports consisting of coffee, etc.	83,653	10.92	856,000	18.6
Imports: Foodstuffs, clothing, etc	102,206	13.35	1,416,000	30.70
Local freight	270,051	35.27	977,000	21.2
Miscellaneous express freight, etc.	163,185	21.31	580,000	12.5
Total	765,702	100.00	$4,619,000	100.00

Passengers carried..... 2,520,611

Total freight carried has increased 53 per cent during the last 5 years and 100 per cent since 1912 with an increase in freight revenues of 62 per cent since 1921.

The results speak well for the management and would indicate a state of prosperity and contentment of the people of the countries traversed by the International Railways.



AN EDDYSTONE MASTERPIECE

Baldwin delivered ten of these dignified and reliable outside frame 2-8-0's in 1925 [c/n 58224] noed 95-104.

Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos.No.	Sold	Amount

CUT HERE To Make Short Sheet

MEXICO
GUATEMALA
HONDURAS
EL SALVADOR
ATLANTIC OCEAN
PACIFIC OCEAN
Puerto Barrios
Livingston
Izabal
Lago de Izabal
Coban
Huehuetenango
Salama
S.Marcos
S.C.Quiche
Totonicapan
Quezaltenango
Solola
Lago Atitlan
Chimaltenango
GUATEMALA
Antigua
Amatitlan
Escuintla
Cuajiniquilapa
Jutiapa
Jalapa
Chiquimula
Santa Rosa
Gracias
Santa Barbara
Lago de Yojoa
Ocotepeque
Esperanza
La Paz
Chalatenango
Metapan
Desague
Lago Guija
Texistepeque
Texis Jct.
La Laguneta
San Isidro
Santa Lucia
Ahuachapan
Sonsonate
Acajutla
SAN SALVADOR
Santa Tecla
Laguna de Ilopango
La Libertad
Zacatecoluca
Gotera
San Miguel
Omoa
Pto Barrios
Livingston
Izabal
Zacapa
El Rancho
Progreso
Cruz
Jalapa
Barranquillo
Agua Caliente
Joya
Pamplona
Campo Seco
Ingenio
Eureka
Cerro Gordo
Frutal
Moran
Laguna
Contreras
Llano
Palin
Electrica
San Fernando
Santo Tomas
Concepcion
Mauricio
Los Cerritos
San Nicolas
Mixtan
Masagual
La Maquina
San Eduardo
Naranjo
Obero
Los Angeles
Penate
San José
Santa Maria
Cristobal
Buena Vista
Palestina
Victoria
Guachipilin
Calis
Chalchuapa
Atiquizaya
Turin
Achapuco
Sitio del Niño
Apopa
Guazapa
Lempa R.
Modesto
La Toma
Ilopango
San Martin
Santa Lucia
Michapa
Cojutepeque
Cerro Partido
Tehuacan
Cañas
Santo Domingo
Los Obrajes
Empalme
Santa Cruz
San Marcos
California
Valle San Juan
Jiquilisco
Concordia
Usulutlan
Padres
Las Primaveras
Calle Nueva
La Carrera
El Triunfo
Miraflores
San Antonio
El Carmen
Lolotique
Portillo
Maquigue
La Union
Miramba
Cutuco
Ulua R.
Motagua R.
Chamelecon R.
Santiago R.
Sarstoon R.
Chixoy R.
Polochic R.
Ladero de San Pablo
Motagua
Rancho Calandria
Cabañas
Tamor
Ucaro
Reforma
Manzol
Zacapa
El Codo
Santa Barbara
Petapilla
Chiquimula
Santa Marta
La Arada
La Cuesta
Ipala
Amatillo
Papalguapa
Angulatu
San Jeronimo
Joya
Cantera
Mendez
Erotila
Menoca
Cimarron
Vuelta Grande
Joaquina
Cucunjo
Dolores
La Cumbre
Sanarate
Chile
Fisca
Agua Caliente
Ciudad Tecun Uman(Ayutla)
El Pinalito
Ayapa
Las Palmas
Alpapita
Arroyo Ancho
Arroyo Grande
Palmira
Malacatan
Concepcion
La Hortensia
Demora
F. De Candel
San Miguelito
Las Anitas
Reposito
Ocos
Santa Clara
Limoncitos
Villa Angela
Esperanza
Alianza
Ayton
Las Cruces
San Juan Agricola
Acapan
Los Angeles
Champerico
Mazatenango
Cabaña
Santa Adela
Palo Gordo
Tiquisate
Guatalon
Variedades
Obispo
Capitol
Modelo
Covadonga
Laguna
Santa Lucia
Plantalon
Valdemoro
Quiepo
Charcon
Las Mercedes
Caracol
Cabeza de Buey
La Vinita
Granada
Rosario
Candelaria
Retalhuleu
Santa Rosa
Xahualete
Rio Bravo
Tecpan
Patzicia
Patzun
Parramos
Zaragoza
Chimaltenango
Pochuta
Santa Ana
Sololá
Panajachel
Santiago
Chichicastenango
Quiche
Sacapulas
Cunen
Uspantan
Nebaj
Chajul
Cotzal
Playa Grande
Ixcan
Chisec
Cahabon
Lanquin
Coban
Tactic
Tamahu
Tucuru
Panzos
Senahu
Cobanerita
Chamelecon
Omoa
Cortes
Manaca
Entre Rios
Chapuapa
Castaneda
Tenedores
Cayuga
Lagarto
Dartmouth
Morales
Yoro
Progreso
Morazan
Yorito
Sulaco
Guaimaca
Quirigua
Las Animas
El Rico
Santa Ines
Guilsimer
Iguana
Blafra
Gualan
El Alto
Los Robles
Zacapa
El Codo
Santa Barbara
Petapilla
Chiquimula
Santa Marta
La Arada
La Cuesta
Ipala
Amatillo
Papalguapa
Angulatu
San Jeronimo
Metapan
Desague
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Turin
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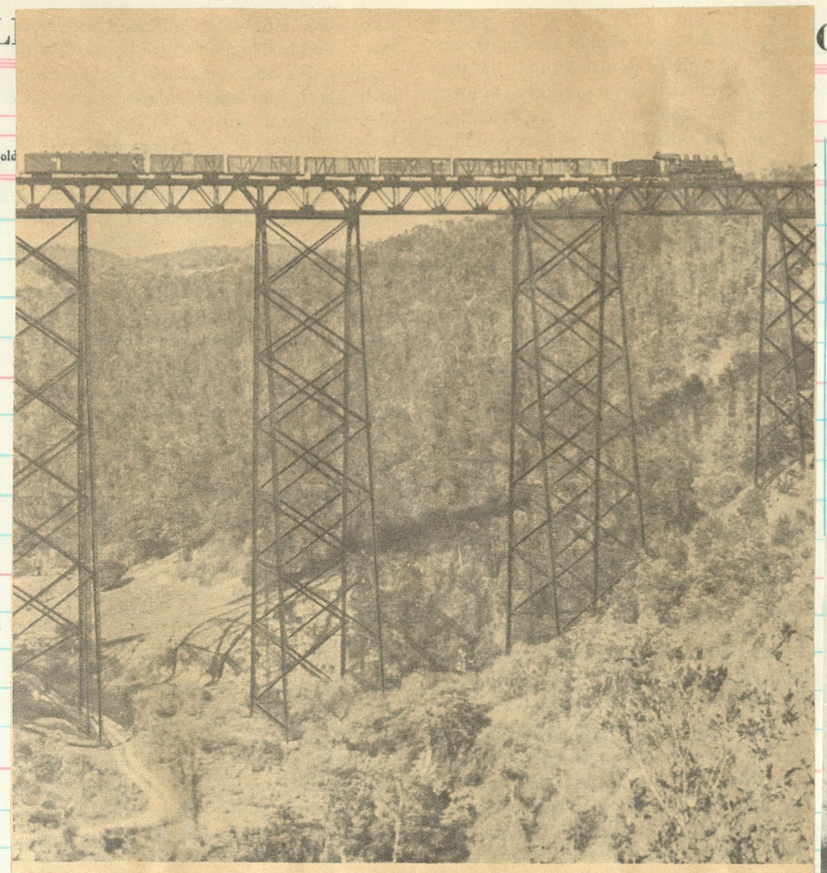
Santa Maria
Cristobal
Buena Vista
Palestina
Victoria
Guachipilin
Calis
Chalchuapa
Atiquizaya
Turin
Achapuco

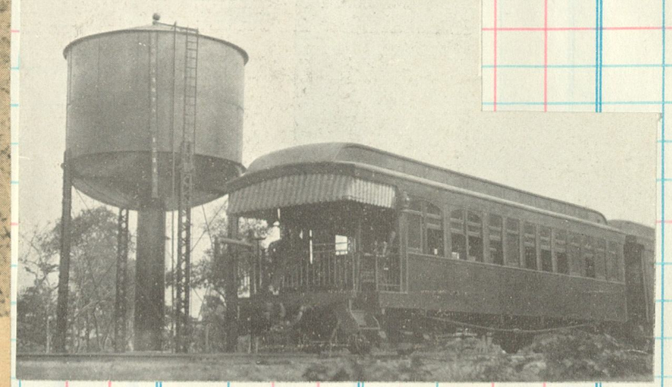
38

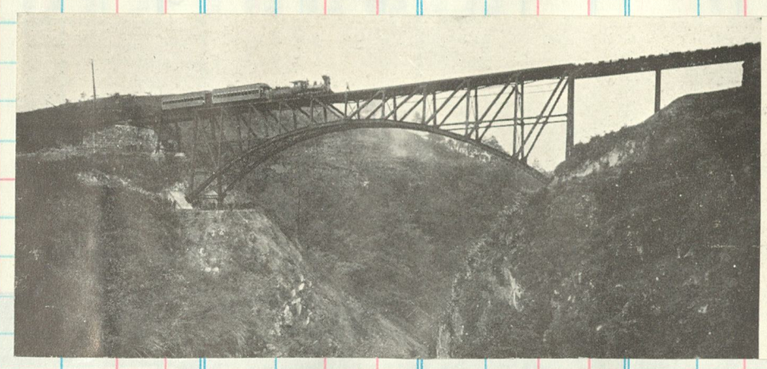
F I de G 2-8-2 #150 [Baldwin 1928 c/n 60556] tip toes across the Las Vacas viaduct assisted by a mid train helper



Las Vacas viaduct, two miles east of Guatemala City, is IRCA's largest bridge, 743 feet long and 240 feet above the bottom of the *barranca*. That's Baldwin Consolidation 159 dragging Number 12 [illegible]o Puerto Barrios

near El RicoBridge over the Motagua River.

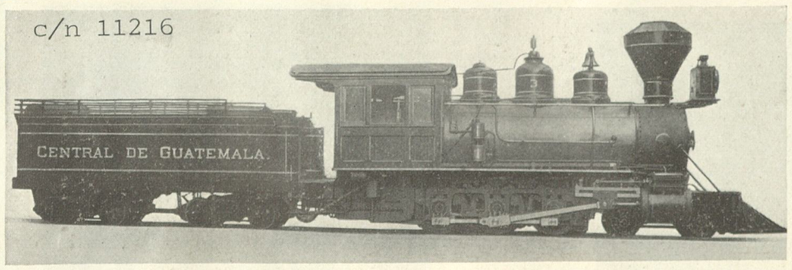




Fiscal Bridge on the Guatemala Railway. The locomotive on the bridge is No. 1, built in 1884 by The Baldwin Locomotive Works, and is still in service.

ABOVE LEFT: We're in twisting 3 per cent territory near Agua aliente east of Guatemala City on the International Railways of entral America, and the train riding the bridge is a passenger spe- al in the charge of 2-8-2 No. 178, a post-World War II Baldwin. The

c/n 11216

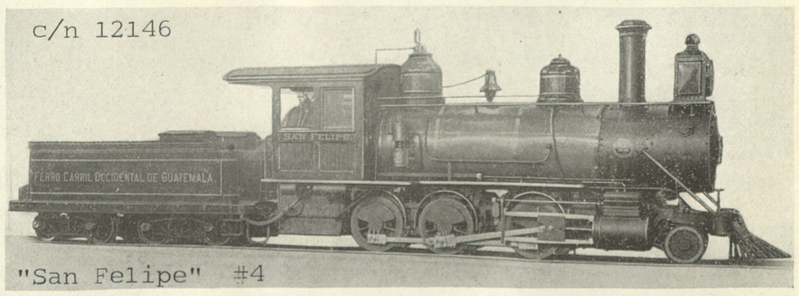


Cylinders	17″ x 20″
Boiler pressure	130 lbs.
Diam., drivers	42″
Weight on drivers	70,000 lbs.
Tractive force	15,200 lbs.

Baldwin 10-wheeler Built in 1890

Cylinders	17″ x 20″
Boiler pressure	130 lbs.
Diam., drivers	40″
Weight on drivers	70,000 lbs.
Tractive force	15,950 lbs.

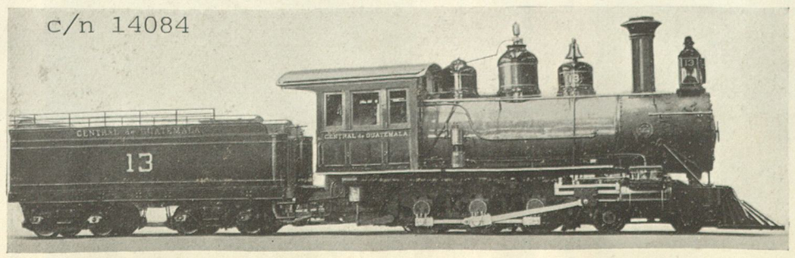
c/n 12146



"San Felipe" #4

Built in 1891 for the F. C. Occidental de Guatemala

c/n 14084

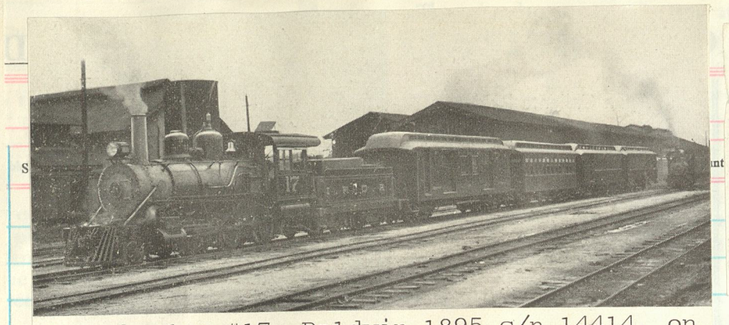


Cylinders	17″ x 20″
Boiler pressure	180 lbs.
Diam., drivers	42″
Weight on drivers	70,000 lbs.
Tractive force	21,000 lbs.

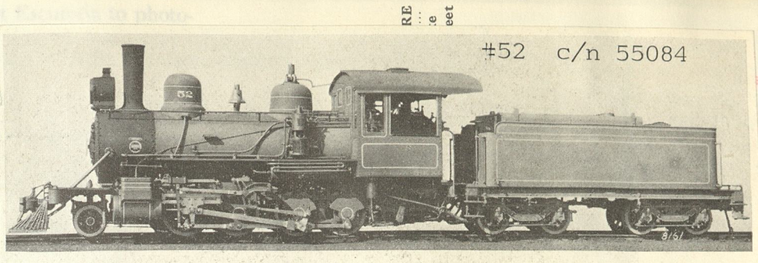
Baldwin 10-wheeler Built for Central de Guatemala in 1894

Total

Yard at Guatemala c 1922

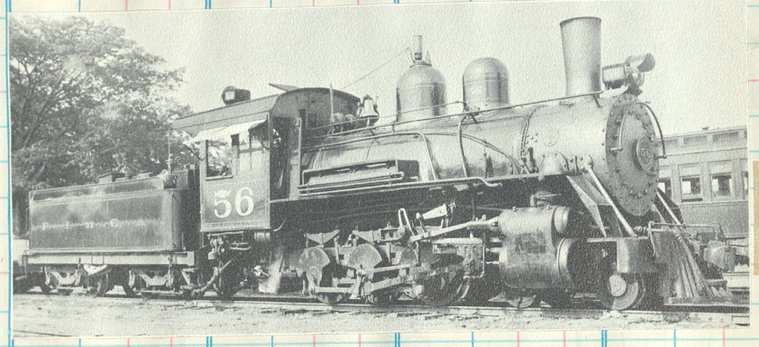


Ten wheeler #17, Baldwin 1895 c/n 14414, on the Presidential consist.

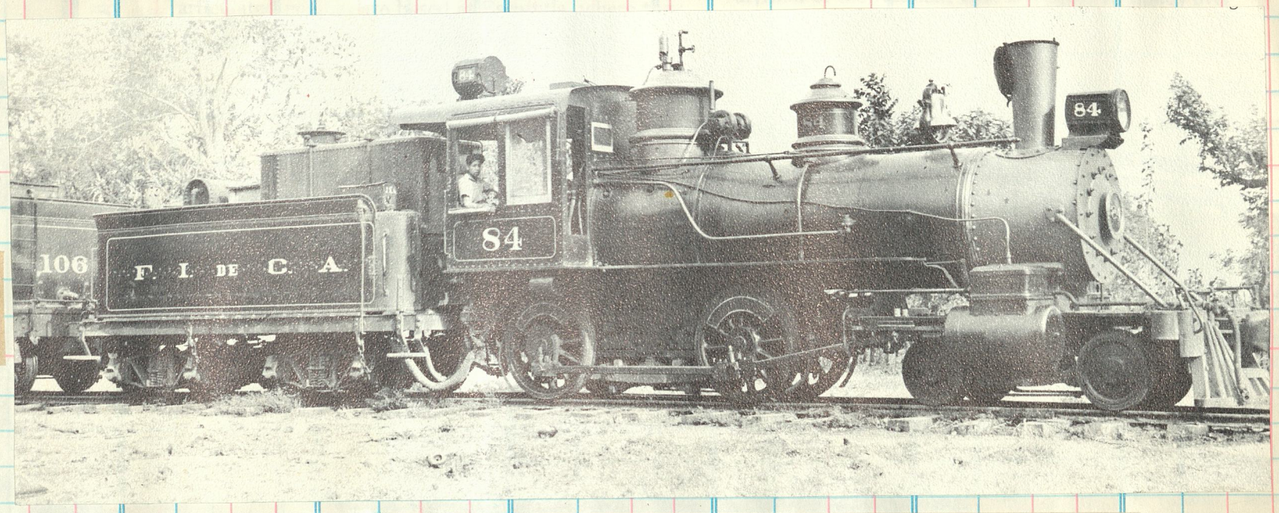


#52 c/n 55084

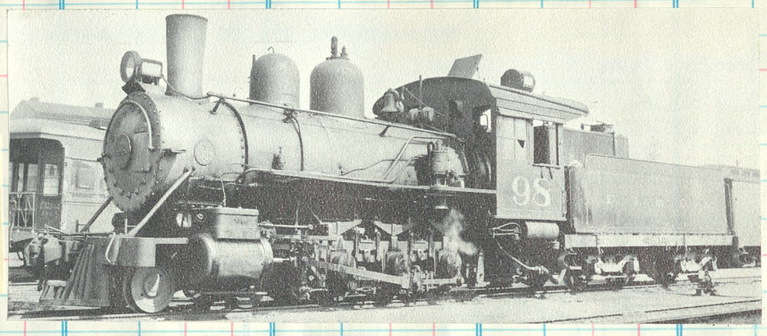
Consolidation Type Built by Baldwin in 1921, Cylinders 16" x 20"



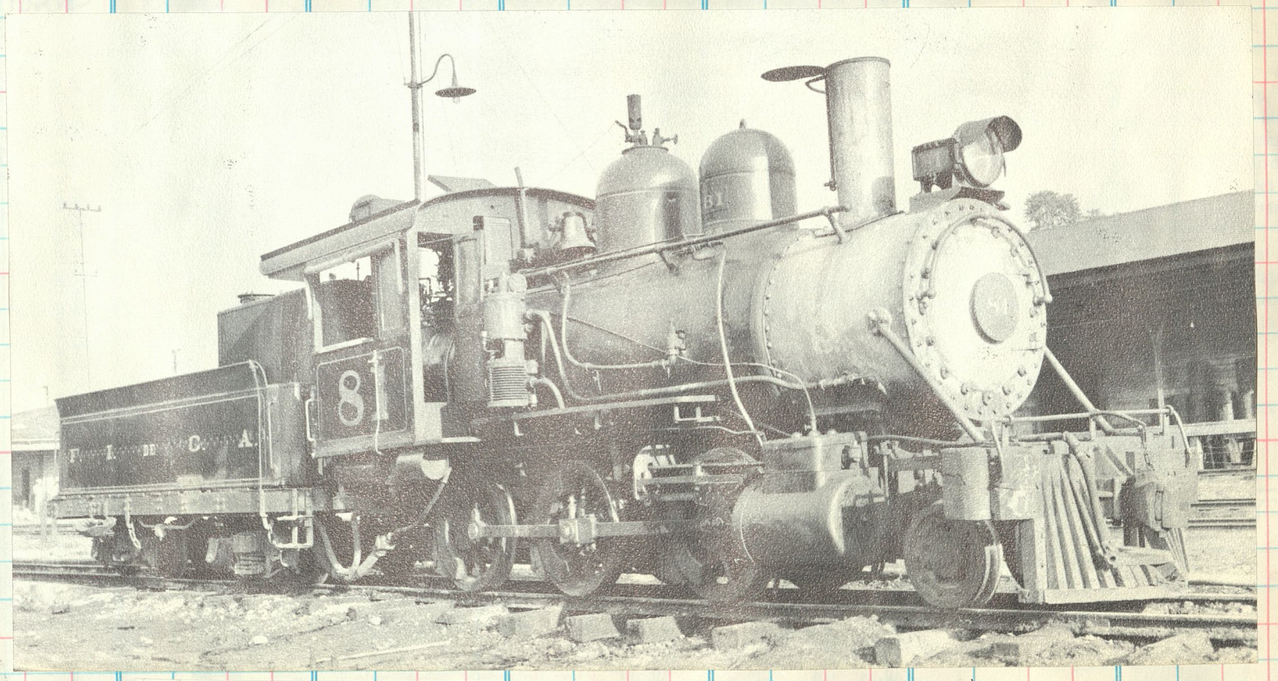
Ten wheeler #56 was built as United Fruit Co. #27 by Baldwin in 1912. c/n 38792



The only 4-4-0 on the present roster. Built by Baldwin for the Santa Cruz Ry (Calif) #3 c/n 3972 in 1876.

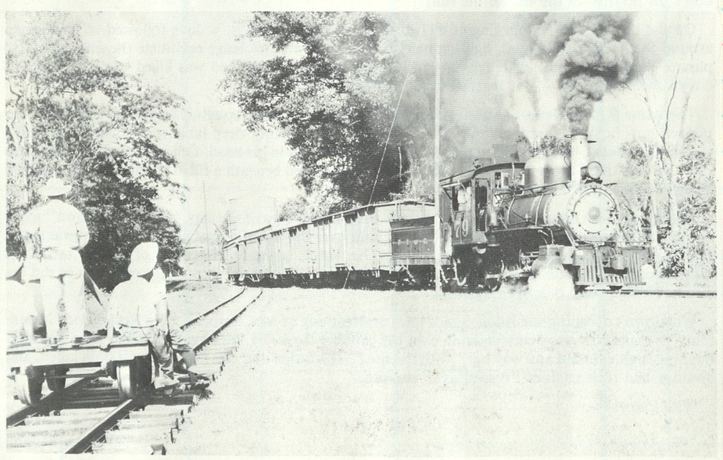


Former Guatemala Central #22 built in 1901 by Baldwin. c/n 18801, 4-6-0.

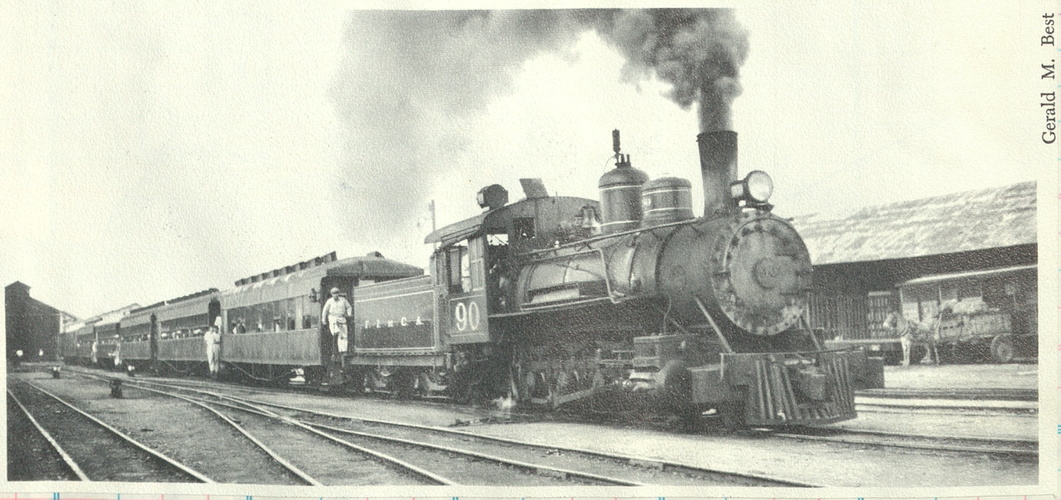


#81, a jaunty Mogul, was delivered as Guatemala Central #25 by Baldwin in 1904 c/n 24473

Below, FICA No. 79 steams out of Muluo for San Felipe, Guatemala with train 202 on January 27, 1965.



Ex Guatemala Central #23 c/n 24471 Baldwin 1904



Gerald M. Best

Departing eastbound out of Guatemala City [Baldwin 1894]

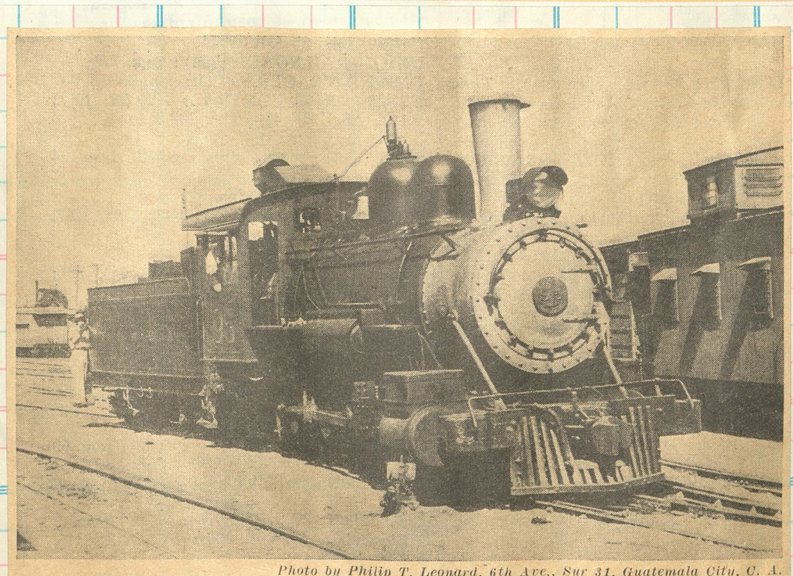
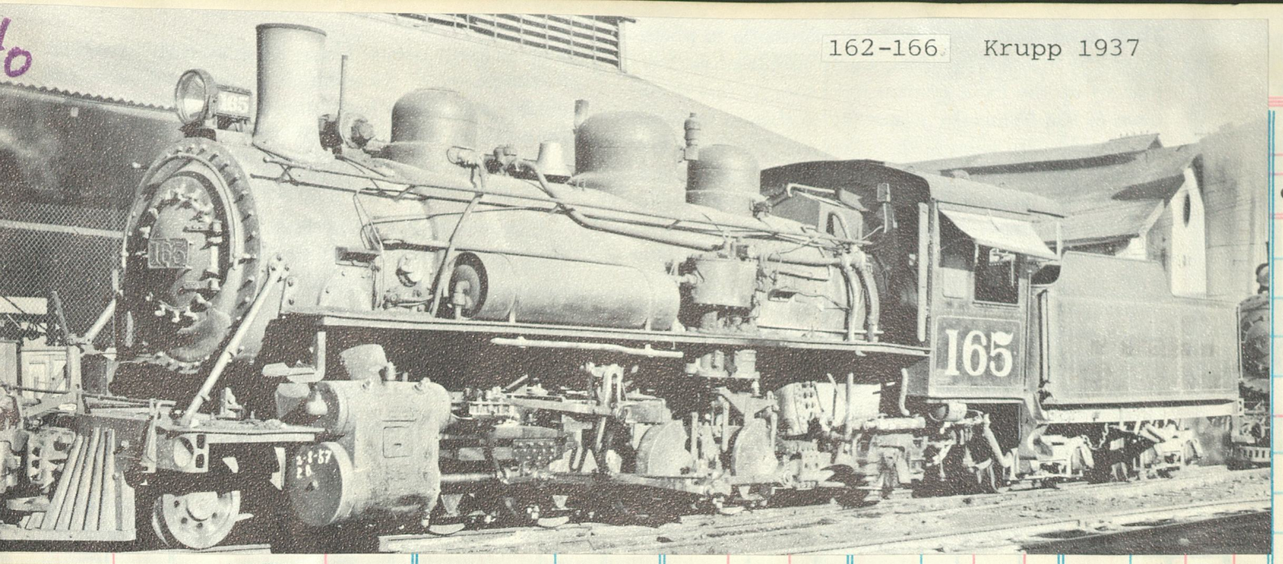


Photo by Philip T. Leonard, 6th Ave., Sur 31, Guatemala City, C. A.

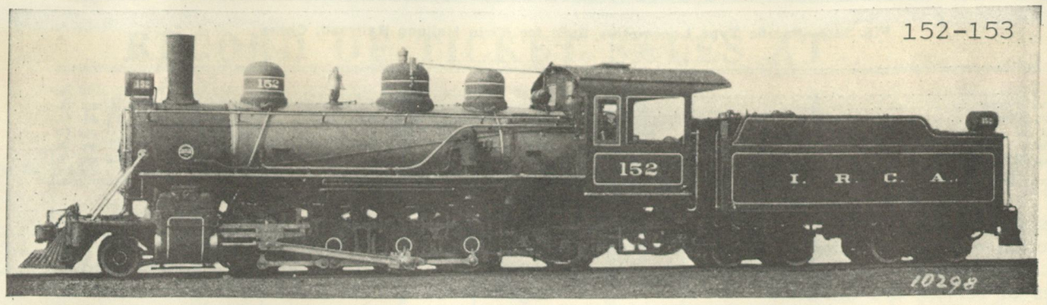
TEN-WHEELER built by Baldwin once burned wood and trundled trains over the high iron in Maya-land. Now, like all IRCA engines, Number 95 burns oil, is relegated to yard work

Former G. C. #19
Baldwin 1901
c/n 18798



162-166 Krupp 1937

The Germans accepted bananas as the rate of exchange for thirteen 2-8-2's noed 162-174. All built by Krupp, nos 162-166 in 1937, 167-170 in 1938 and 171-174 in 1939 to Baldwin blueprints.

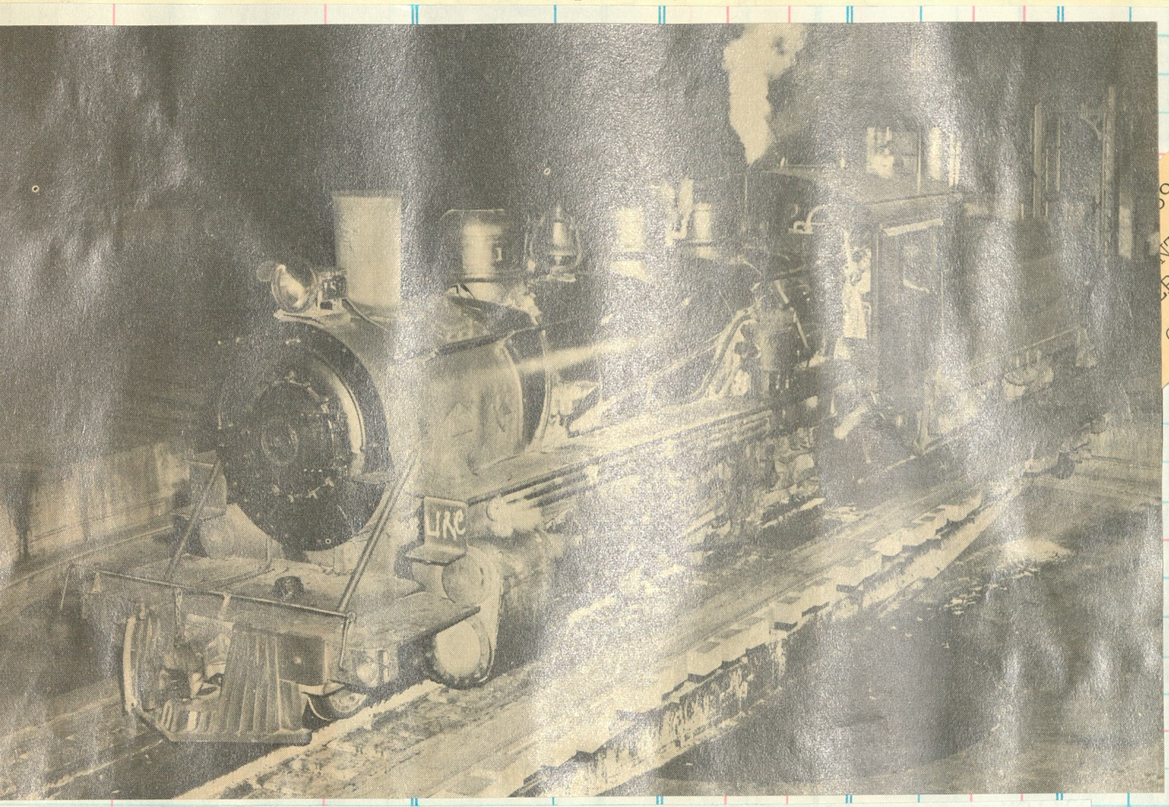


152-153

Fig. 3336—Mikado (2-8-2) Type Locomotive with Caprotti Gear. Built for International Railways of Central America by The Baldwin Locomotive Works. 1929
c/n 60722

Gage	3 ft. 0 in.	Total wheel base	26 ft. 6 in.
Cylinders	18 in. x 22 in.	Evaporative heating surface	1,668 sq. ft.
Steam pressure	175 lb.	Superheating surface	420 sq. ft.
Diameter of drivers	40 in.	Grate area	34 sq. ft.
Tractive force	26,500 lb.	Weight on drivers	105,900 lb.
Driving wheel base	12 ft. 0 in.	Weight of engine	138,100 lb.

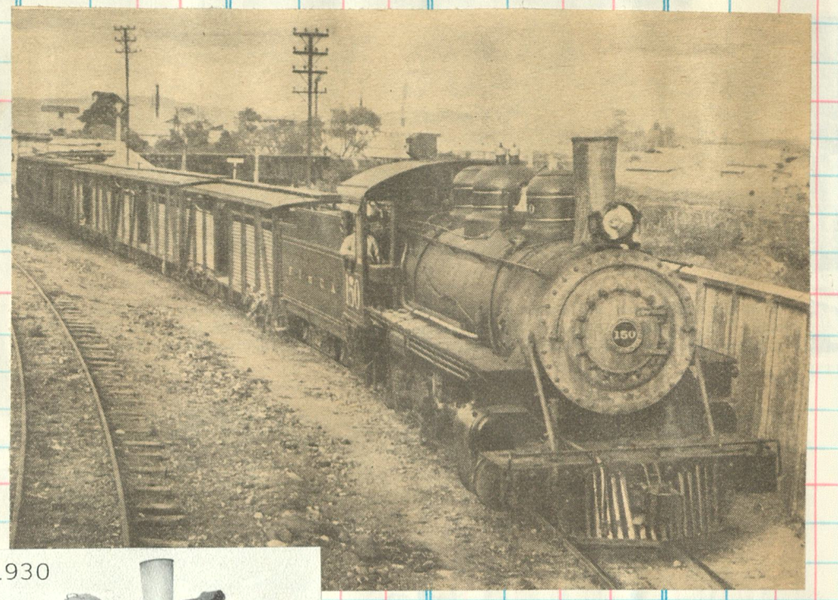
Clos.No. Sold Amount



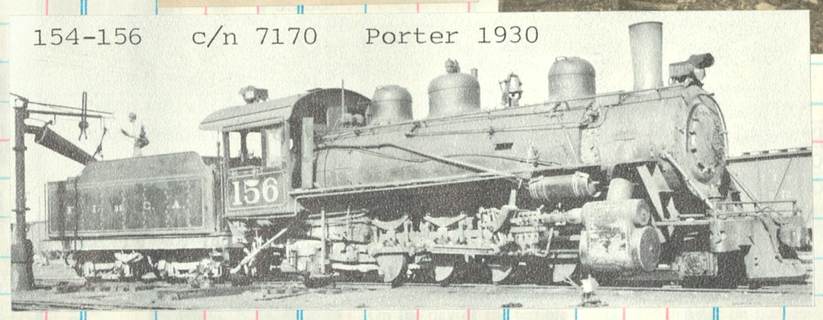
Six 2-8-2's, 175-180, built by Baldwin in 1946 for Cia AGRICOLA. The 180, now FEGUA, on the table at Zacapa in 1972. c/n 72659

9 as
TERNACIONAL
RICA
C A

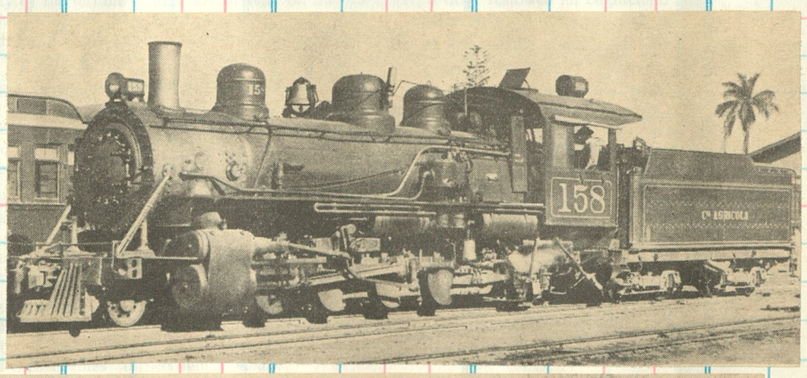
ike 150 waits to depart Guatemala yard with a train of empty banana cars
150-151
Baldwin 1928
c/n 60556
F.I.C.A.

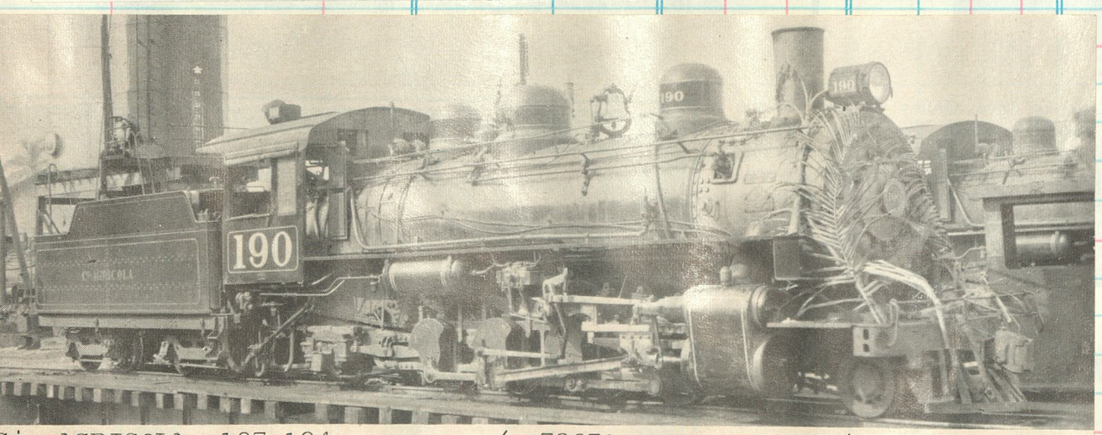


154-156 c/n 7170 Porter 1930

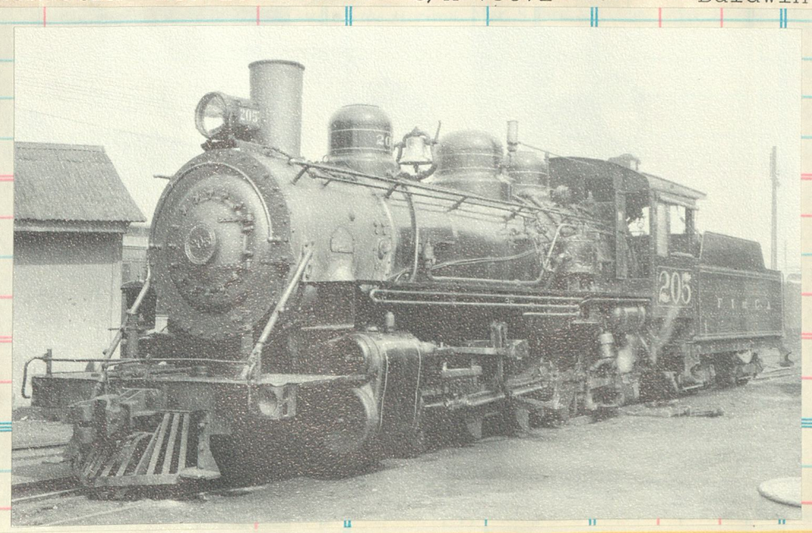


Cia AGRICOLA
157-161
Baldwin 1936
c/n 61992





Cia AGRICOLA 187-194 c/n 73671 Baldwin 1947 C. W. Witbeck

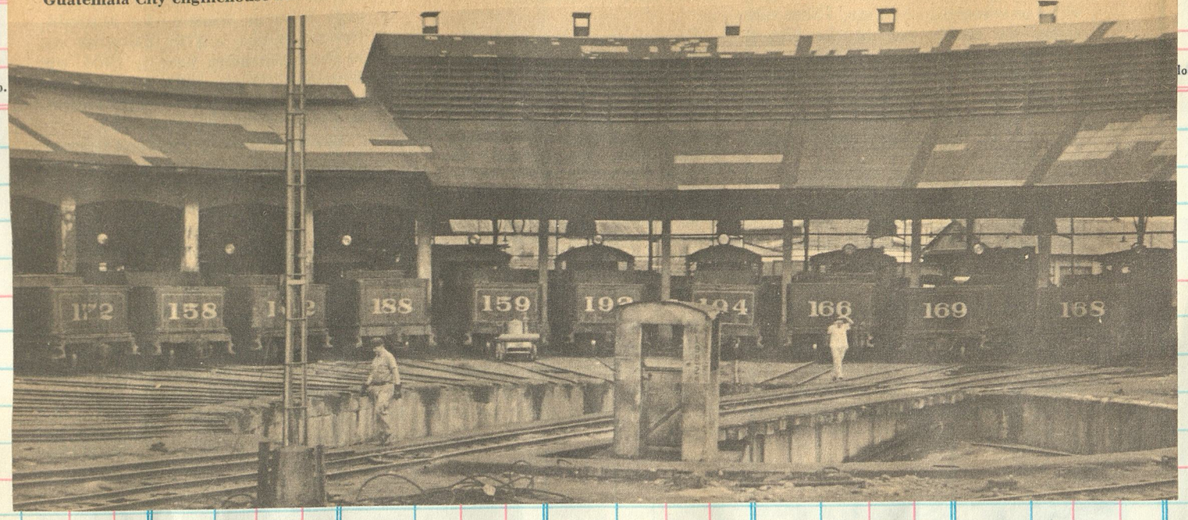


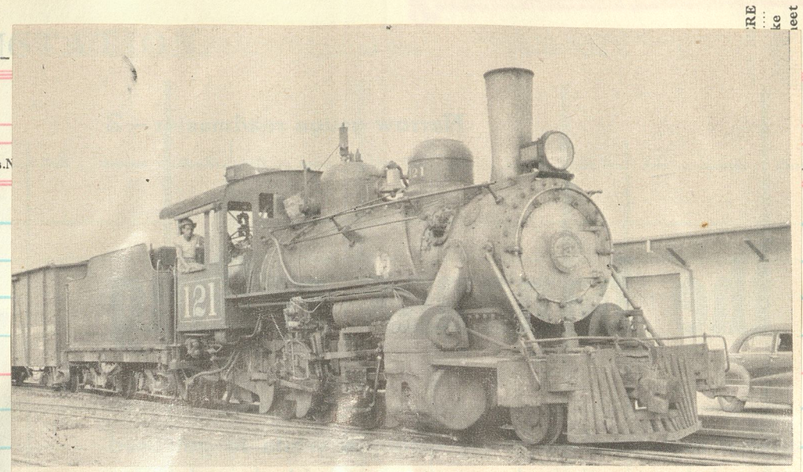
The final engines for the F.I.C.A. was twelve Mikes noed 195-206 ordered from Baldwin in 1948 by the United Fruit Co. #205 had c/n 74135

FEGUA #182 (ex Cia AGRICOLA) a Baldwin 2-8-2 [181-186] blt in 1946 c/n 73097 climbs a hill with the mixed near Ipala, Gus. in 1972.

Photograph by Adolf Gutohrlein

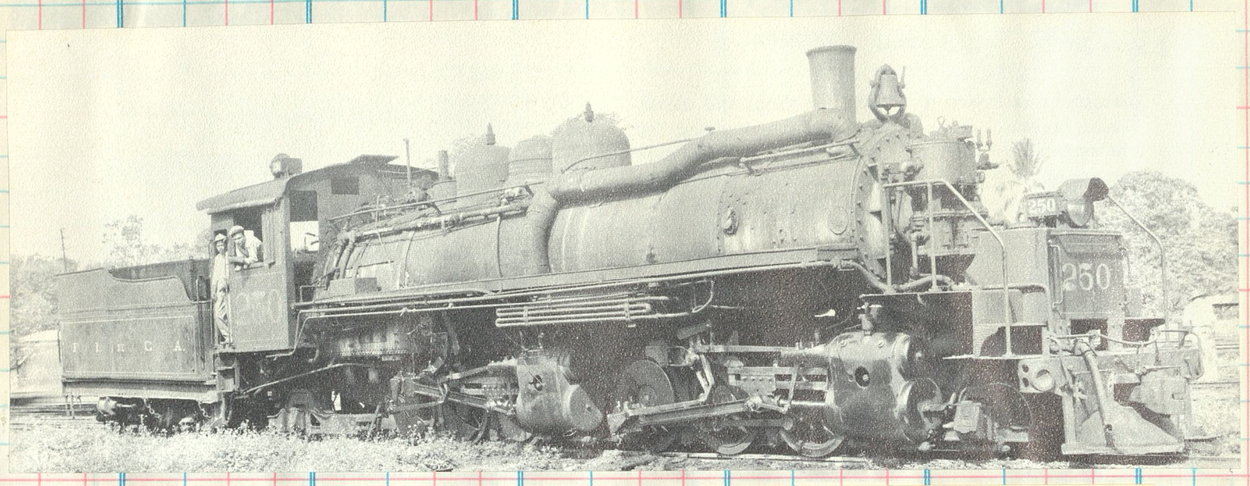
Guatemala City enginehouse accommodates ten narrow-gage 2-8-2's, mostly Baldwins, of International Rys. of Central America.



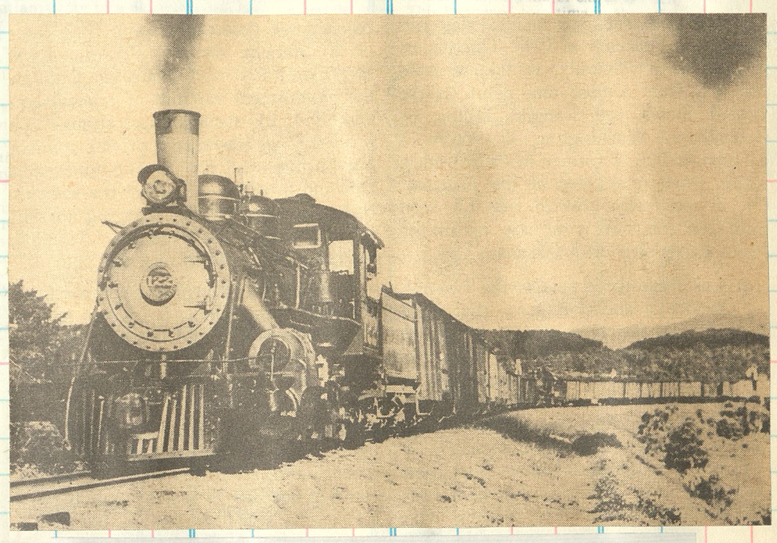


C. W. Witbeck.

A good many of her sister 2-8-0's are assigned to service in Salvador, but No. 121 still rides the 36-inch gauge in Guatemala. Guatemala City, where she poses, has an elevation of 4910 feet, Barrios .05 feet. Negotiating this line calls for real versatility in a locomotive!



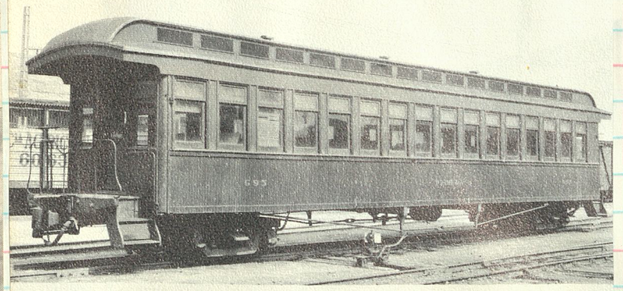
A narrow gauge boomer. Built as #50 for the Uintah by Baldwin in 1926, c/n 59261, along with a sister engine #51 were the only 3' gauge mallets constructed for service in the U. S. Orginally were tank engines but after being sold to the Sumpter Valley in 1940 the tanks were removed and a tender applied. Sold to I.R.C.A. 1947

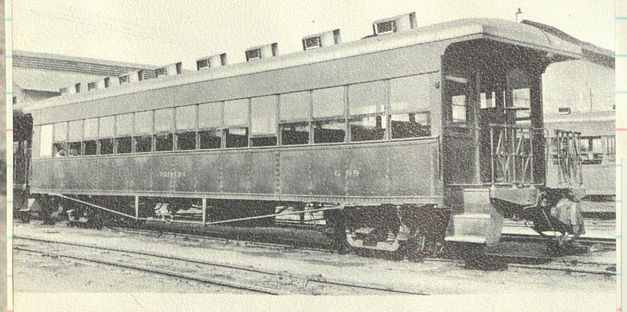


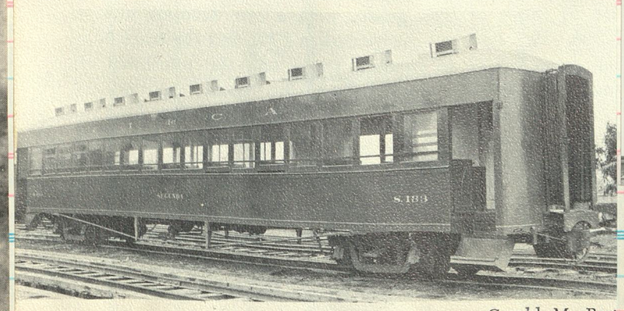
The 122, with a mid train helper, climbs the grade near the Los Vacos viaduct

Near Chile a pair of Baldwin 2-8-2's (the other is beyond the curve and cut into the middle of the train) nurse a sizable banana train downgrade. Krupps and Baldwin power are similar.

Philip T. Leonard.

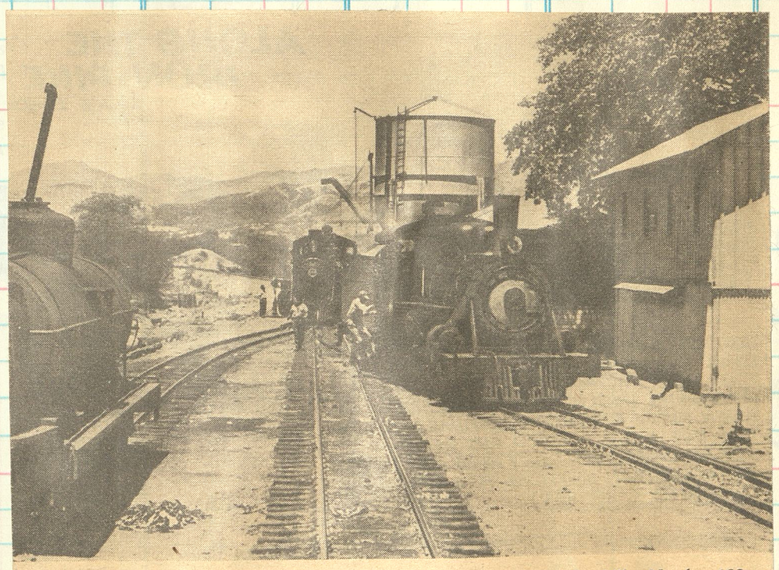






Gerald M. Best

HANDSOME NARROW GUAGE ROLLING STOCK is represented by, (TOP) first class coach No. G95, one of the old wooden coaches fast disappearing on the I.R.C.A.; (CENTER) new first class steel coach No. G99; and (BOTTOM) new steel, vestibuled coach No. S183 on the Salvador division.



Switching scene near the desert town of Rancho in the Sierra Madres foothills. Number 183, at center, a new Mike delivered in March of '47, is heading into the clear on the Puerto Barrios line

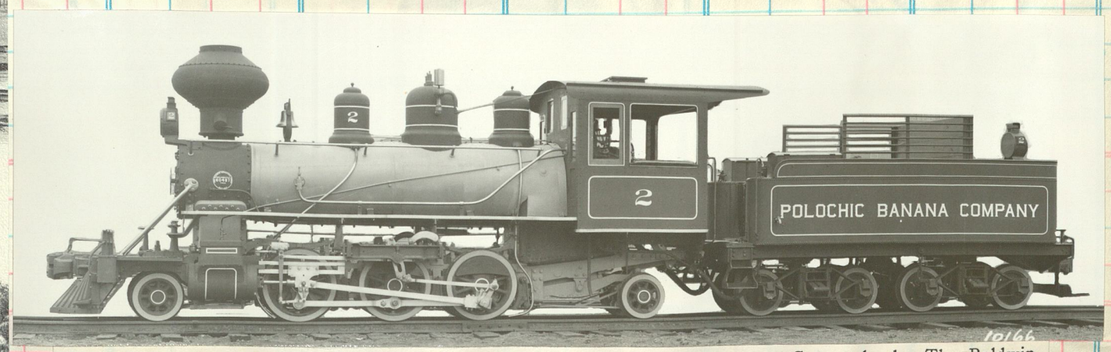
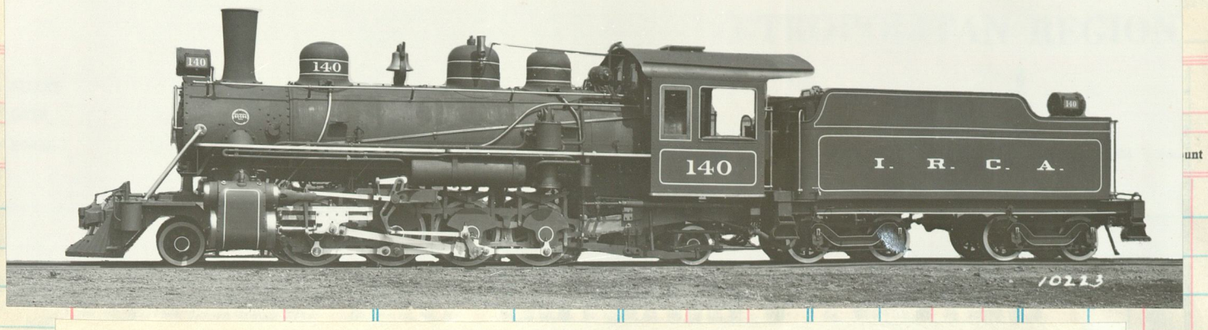
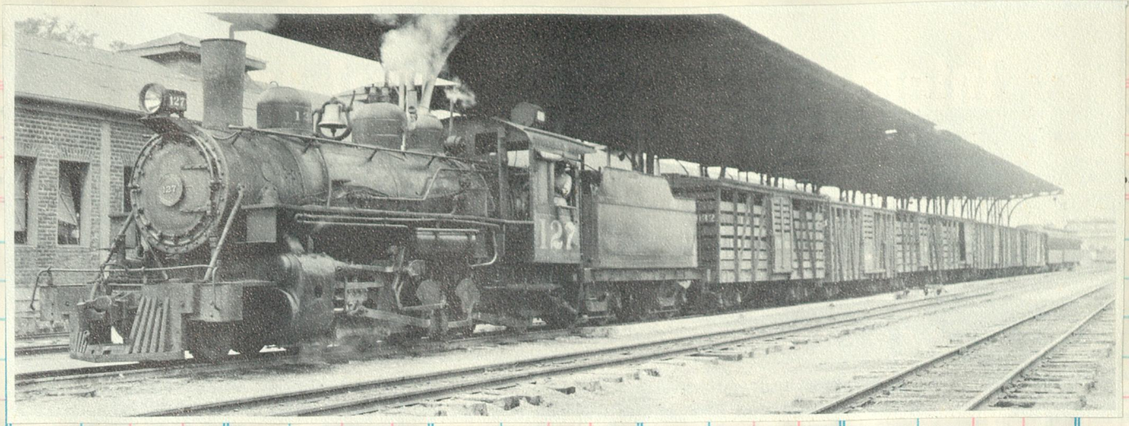


Fig. 3337—Prairie (2-6-2) Type Locomotive. Built for Polochic Banana Company, Guatemala, by The Baldwin Locomotive Works. 1928 c/n 60487

Gage	3 ft. 0. in.	Total wheel base	20 ft. 9 in.
Cylinders	12 in. x 18 in.	Heating surface, total	534 sq. ft.
Steam pressure	170 lb.	Grate area	13.2 sq. ft.
Diameter of drivers	37 in.	Weight on drivers	40,650 lb.
Tractive force	10,100 lb.	Weight of engine	56,850 lb.
Driving wheel base	7 ft. 9 in.	Fuel	Wood



In 1928 Baldwin delivered four majestic Mikes noed 140-143. [c/n 60586] Later renoed 126-129.

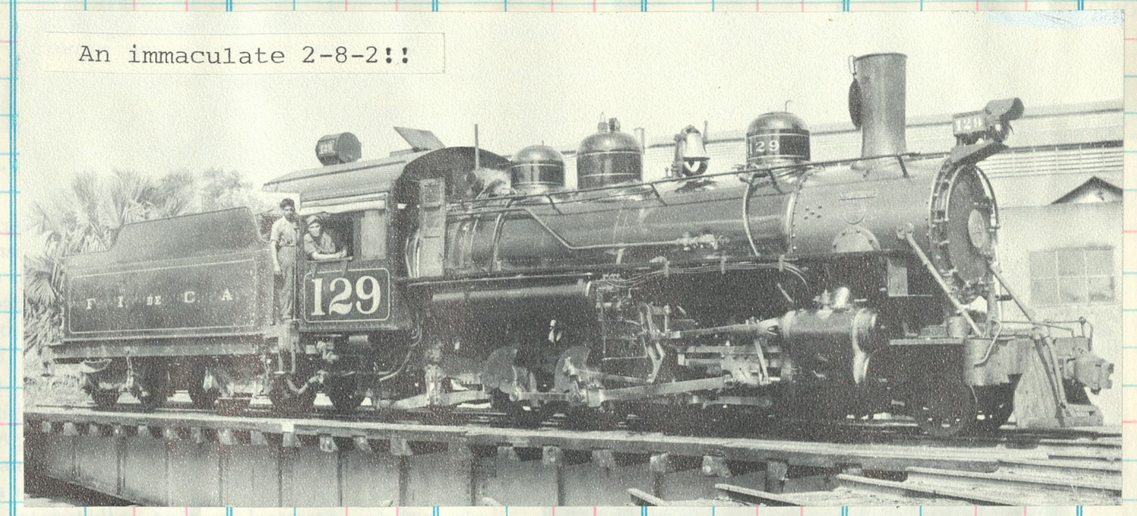


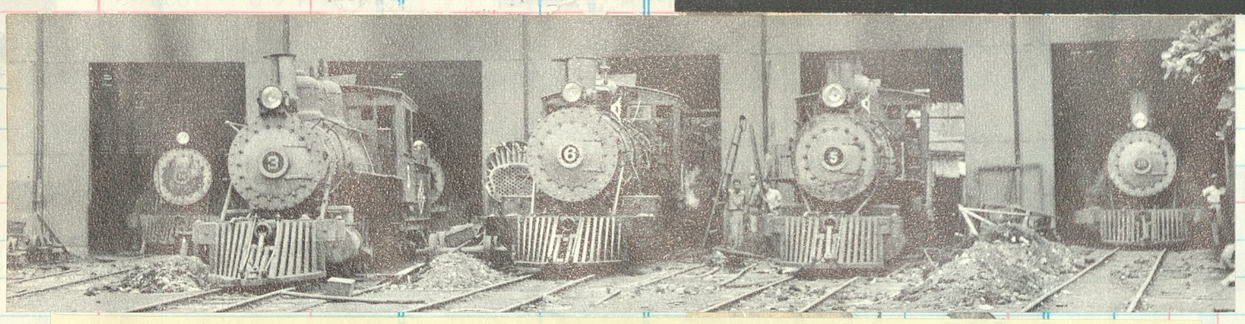
#127 with the the Zacapa-San Salvador mixed at San Geronimo.

Dep San Sebastian

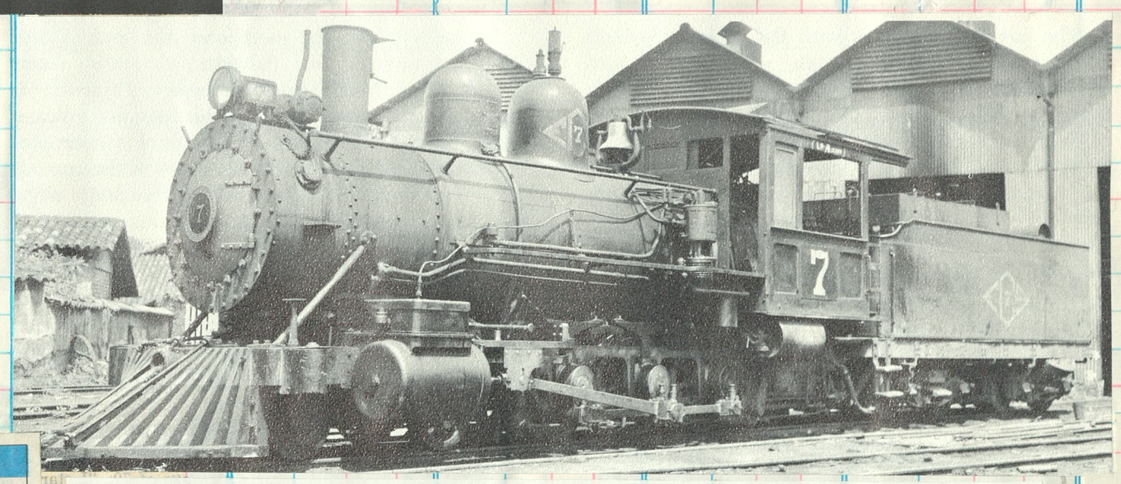
Ferrocarril de El Salvador

An immaculate 2-8-2!!

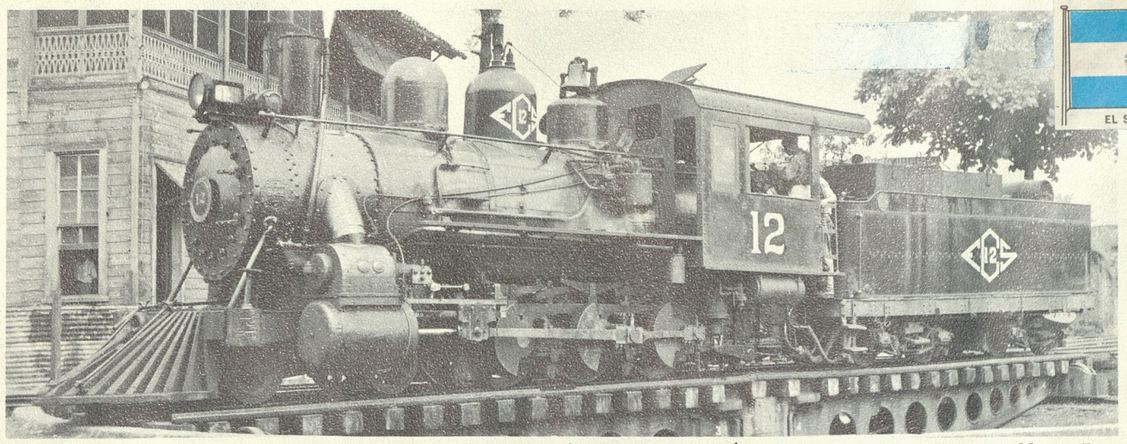




Five ponies being groomed at the Sonsonate stable. L to R is #12, #3 (2-8-0 Baldwin 1889), #6 (4-6-0 Baldwin 1895), #5, and #10 (4-6-0 Baldwin 1896)

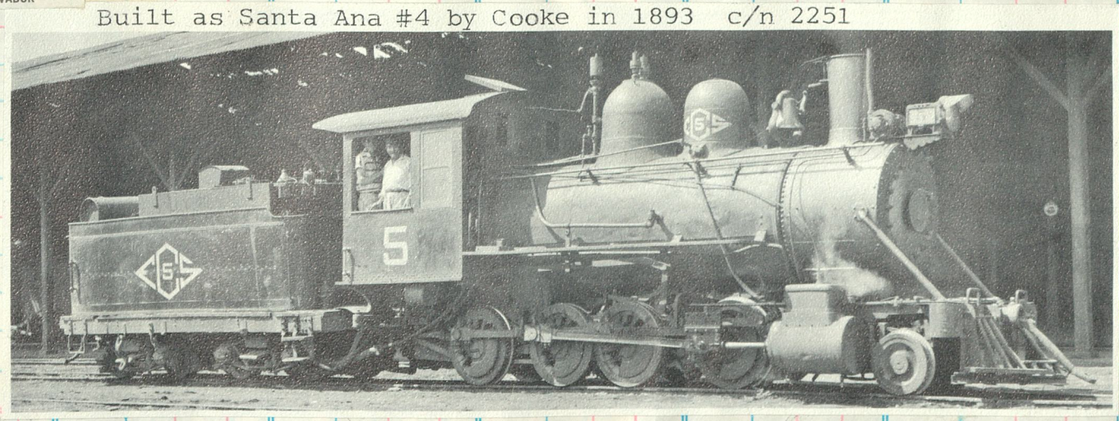


Ten Wheeler #7 built by Baldwin 1895, c/n 14454, as Santa Ana #6

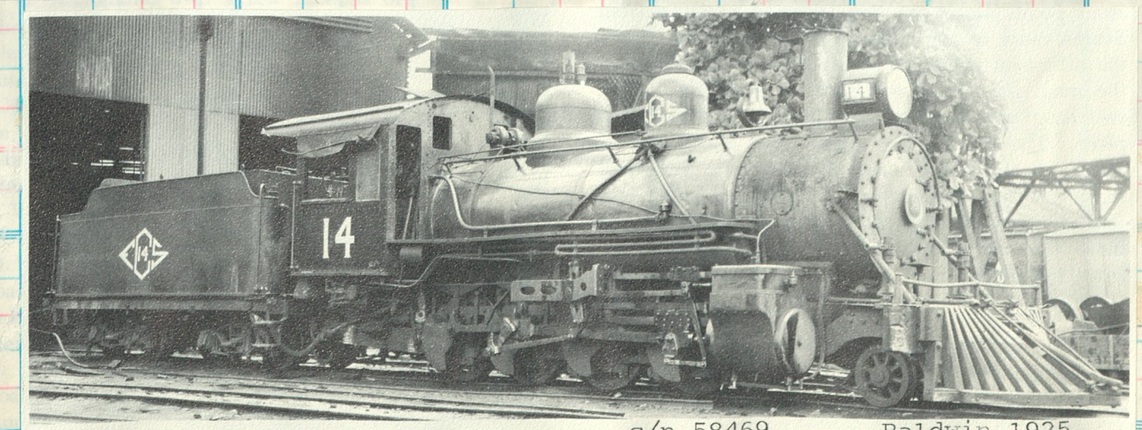


No. 12 ON TURNTABLE at Sonsonate. 4-6-0 Baldwin 1910 c/n 35472 Gerald M. Best

Built as Santa Ana #4 by Cooke in 1893 c/n 2251



#36 one of four 2-8-0's purchased from the O.R.& L. [Hawaii] in 1950 Built by Rogers in 1913, c/n 53447

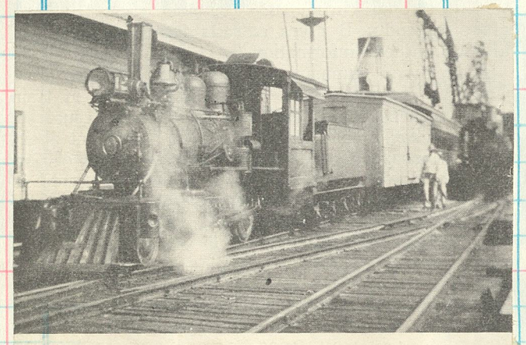


c/n 58469 Baldwin 1925

Clas. No.

HONDURAS

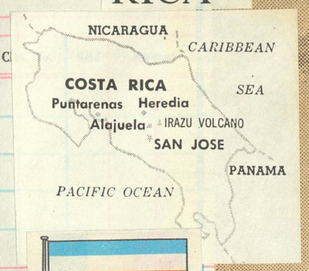
BOUND for the Caribbean port of La Ceiba, a United Fruit Company 2-6-0 (Porter 1914) struggles upgrade through tropical forest at 10 mph with twice-weekly "el rapido."



Passenger Train of the Standard Fruit & Steamship Company at La Ceiba, Honduras

31
2-6-2
B-26
59894

COSTA RICA



TELARE

3'6"
LIFE

NORTHERN RAILWAY OF COSTA RICA.
G. P CHITTENDEN, Manager, Port Limon, Costa Rica

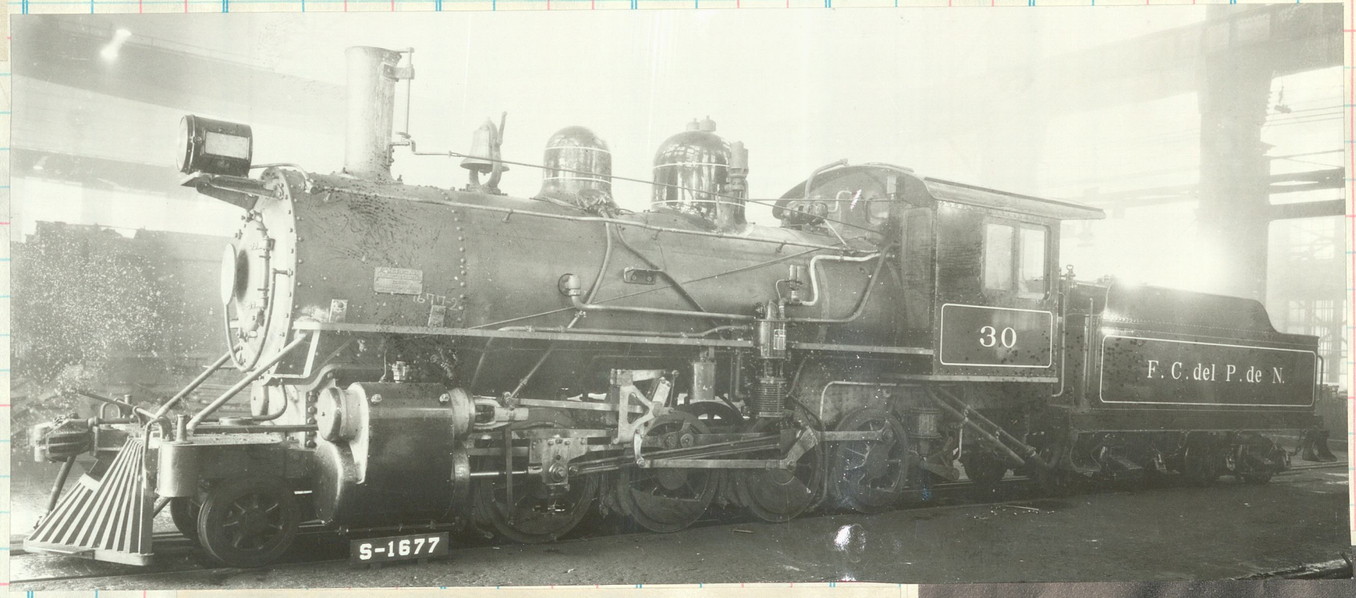
Main Line.—Leaves **Limon** *10 30 a.m. for Estrada, **Siquirres**, **La Junta**, Peralta, Cartago and San Jose, arrives **Alajuela** (117 miles) 6 10 p.m. Leaves Limon §2 30 p.m., arrives La Junta 4 58 p.m. Leaves Peralta *6 00 a.m., arrives San Jose 9 55 a.m. Returning, leaves Alajuela *7 00 a.m., arrives Limon 3 15 p.m. Leaves La Junta §7 37 a.m., arrives Limon 10 13 a.m. Leaves San Jose *3 15 p m., arrives Peralta 6 45 p.m.

Branches.—**La Junta** to Toro Amarillo (22 miles), Limon to Ley River (32 miles), Limon to Estrada (21.4 miles), Siquirres to Dorotea (12 miles).

February, 1930.
* Daily; § Sunday only. *Central time.*

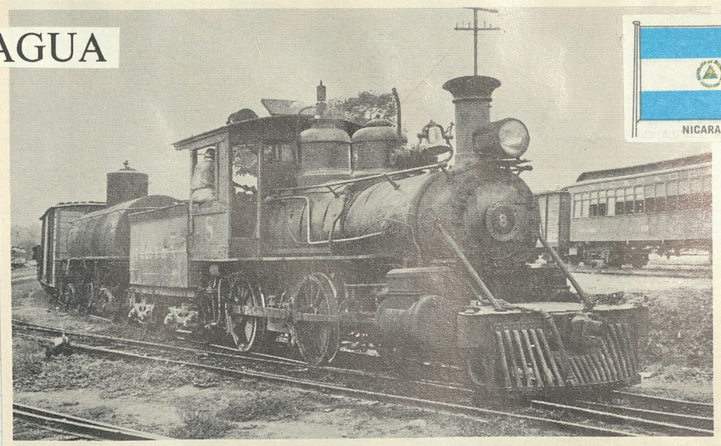
A Busy Scene at Peralta Station, Near the Middle of the Costa Rica Railway, Where the Eastbound and Westbound Passenger Trains Meet. The Heavy Grade Going West Starts About Two Miles from Here. The Photo Was Taken Looking West

42" ga

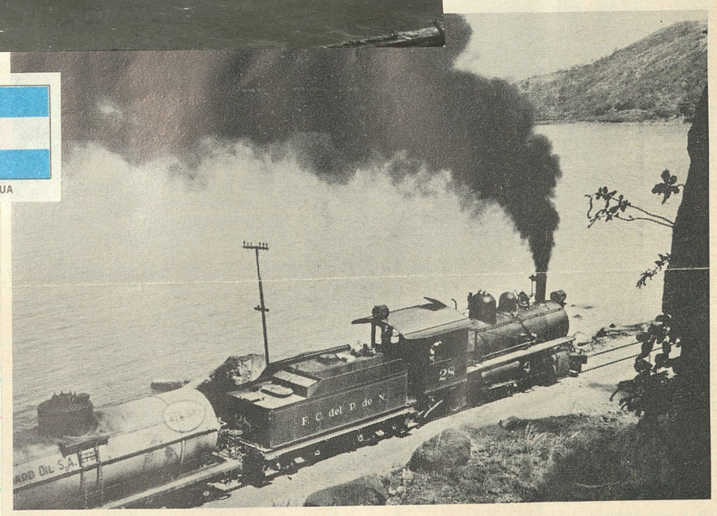


Nos 29 & 30
Schenectady 1929
c/n 68229

NICARAGUA



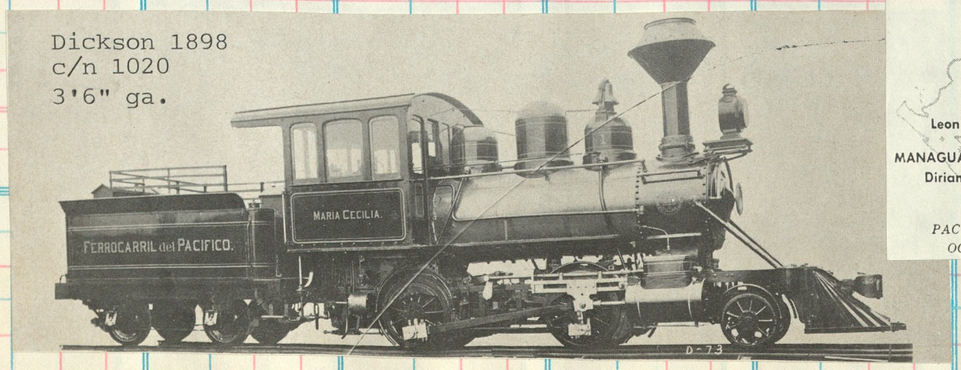
YARD goat at Managua, Nicaragua, on April 27, 1962, was No. 8 (Baldwin 1887), a capped-stack American type that looked like something out of Ward Kimball's back yard.

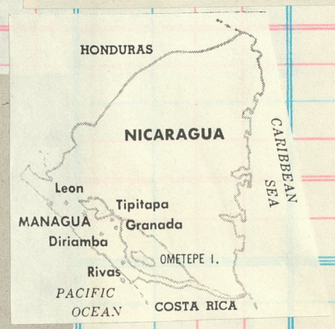


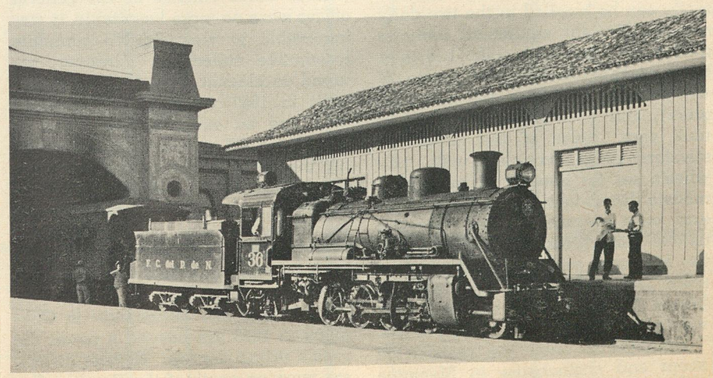
IT'S oil smoke over Lake Managua in Nicaragua as Alco 2-8-0 No. 28 gets a roll on No. 1, the Corinto-Granada mixed of the PdeN. Cab carries headlight for reverse movements.

Cooke
1914
#54784

Dickson 1898
c/n 1020
3'6" ga.







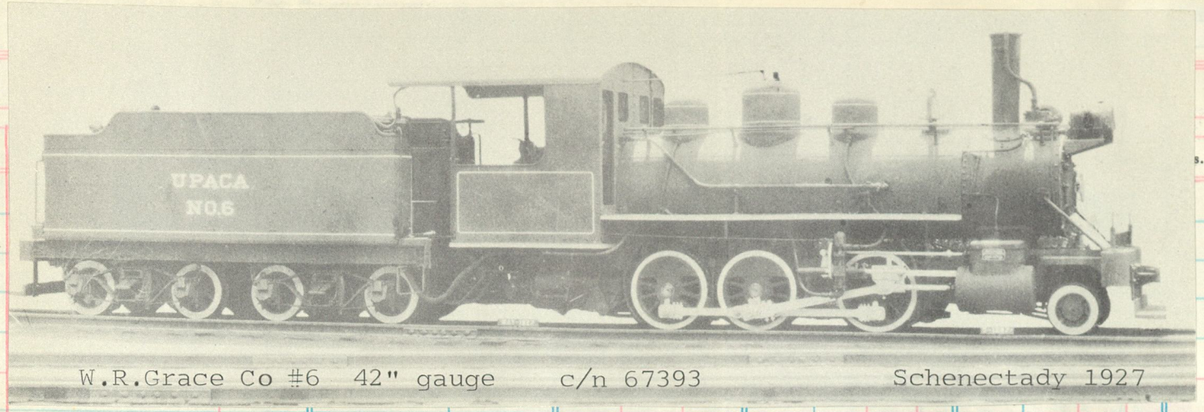
IN the august surroundings of the Granada station a very modern Mike (Henschel 1953) cuts off from mixed No. 1. Alas, a highway has diverted most of the passenger traffic.

14

SELLER

DATE

FORM



W.R.Grace Co #6 42" gauge c/n 67393 Schenectady 1927

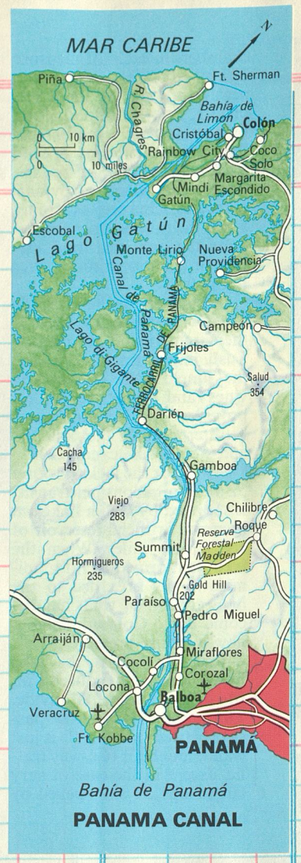
RECORD OF TICKET SALES AT

s. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount

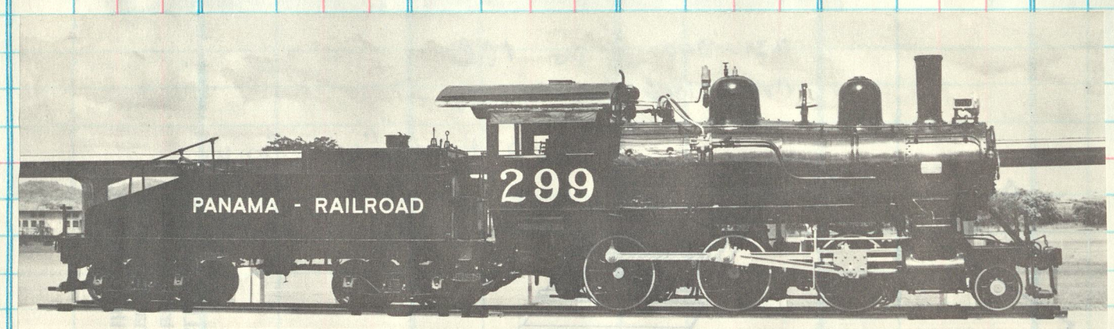
Total

Total

Total



Two of the five [701-705] Moguls delivered by Schenectady in 1940 wheel a 13 car "Ocean to Ocean" consist, possible cruise ship land tour.



In 1906 ALCO received an order for 120 2-6-0 type from the Isthmus Canal Commission. Construction was done at the Schenectady, Cooke and Brooks plants. Nos 231-300 built by Cooke. #299, c/n 39210, on static display at the Balboa Heights station.

The 701 & 705 working a heavy train out of Panama City

Clos. No. Sold Clos. No.

P R-46

CONDENSED TIME-TABLE (No. 44)

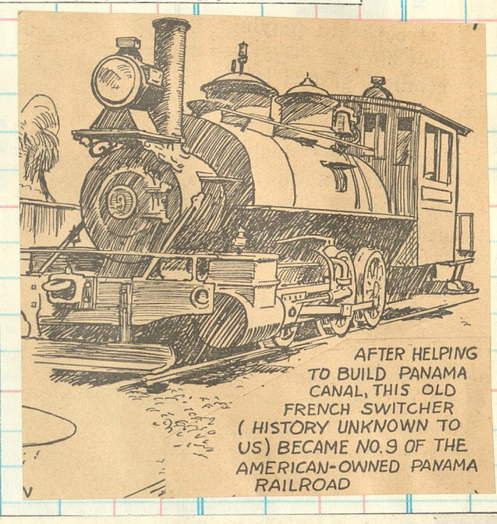
BETWEEN COLON AND PANAMA, REPUBLIC OF PANAMA.

September 11, 1938.

9	7	5	3	31	Mls.		2	32	4	6	8
P M	P M	A M	A M	Mix.		LEAVE | ARRIVE	A M	Mix.	P M	P M	P M
*1000	*5 00	*1100	*7 00	A M	0	.....Colon.....ð	8 30	A M	2 30	6 25	9 15
f1004	5 04	11 04	7 04	†5 30	1·58	..... Mount Hope	8 26	11 30	2 26	6 21	†9 12
f1014	5 14	11 14	7 14	5 45	6·79	.....Gatun.....ð	8 17	11 14	2 17	6 13	†9 04
– –	– –	– –	– –	†5 54	11·77	..... Quebrancha	– –	†1050	– –	– –	– –
– –	– –	– –	– –	†6 00	14·46	..... Monte Lirio	– –	†1045	– –	– –	– –
– –	– –	– –	– –	†6 05	17·81	.....Bohio.....	– –	†1037	– –	– –	– –
– –	†5 34	– –	†7 35	6 15	20·92	.....Frijoles.....ð	†7 56	10 30	– –	– –	– –
– –	– –	– –	– –	†6 25	25·32	..... Darien	– –	†1010	– –	– –	– –
f1048	5 48	11 45	7 50	6 40	30·23	.....Gamboa.....ð	7 40	10 00	1 44	5 37	†8 27
– –	– –	– –	– –	†6 50	35·18	.....Summit.....	– –	†9 35	– –	– –	– –
f1105	6 06	12 03	8 07	7 23	40·24	..... Pedro Miguel .....ð	7 23	9 10	1 26	5 18	†8 10
– –	6 14	– –	8 15	†7 32	44·23	.....Corozal.....	7 13	†8 55	– –	5 09	– –
11 15	6 20	12 15	8 20	– –	46·26	.... Balboa Heights	7 10	– –	1 15	5 05	8 00
11 20	6 25	12 20	8 25	7 40	47·61	.....Panama.....ð	*7 05	†8 45	*1 10	*5 00	*7 55
P M	P M	P M	A M	A M		ARRIVE | LEAVE	A M	A M	P M	P M	P M

Trains 4, 5, 6 and 7 have Parlor Cars.

* Daily; †daily, except Sunday; *f* flag stop. ð Telegraph stations.



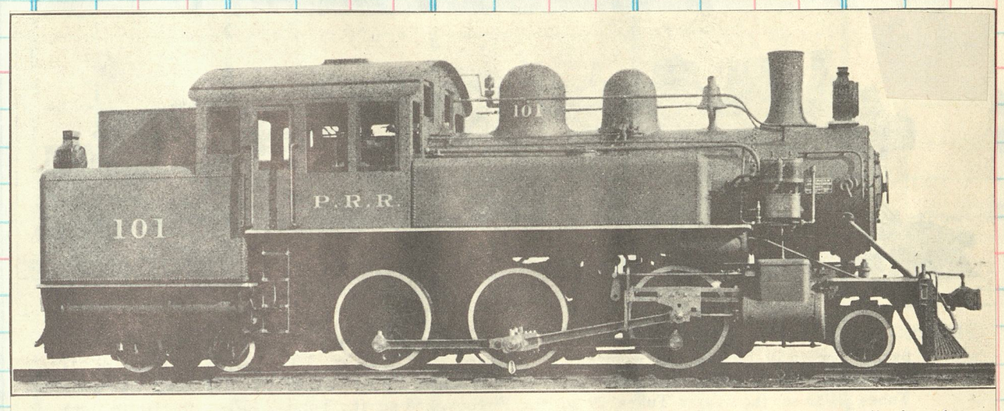
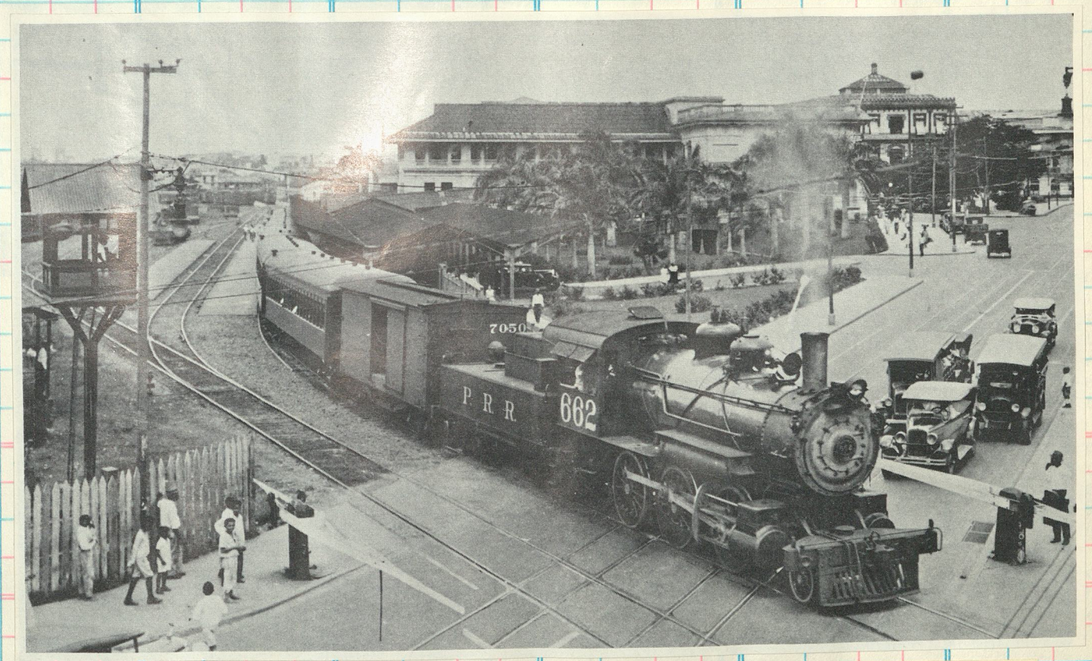


Fig. 31—Six-Coupled Double Ender (2-6-4) Tank Locomotive for Passenger Service. Built for the Panama Railroad by the American Locomotive Company. Cylinders, 19 in. x 26 in. Working Steam Pressure, 180 lbs. per sq. in. Diameter of Drivers, 54 in. Tractive Effort, 26,590 lbs. Heating Surface—Tubes, 1,372.7 sq. ft.; Firebox, 125.1 sq. ft.; Total, 1,497.8 sq. ft. Grate Area, 26.2 sq. ft. Rigid Wheel Base, 13 ft. 2 in. Total Engine Wheel Base, 32 ft. 8 in. Weight on Drivers, 124,000 lbs. Total Weight of Engine, 183,500 lbs. Fuel, Soft Coal.

Boiler, Diameter	62 in.	Weight on Drivers ÷ Tractive Effort	4.66
Firebox, Length	90 in.	Total Weight ÷ Tractive Effort	6.91
Firebox, Width	42 in.	Tractive Effort × Diam. Drivers ÷ H. S.	959.00
Tubes, Number	220	Total Heating Surface ÷ Grate Area	57.20
Tubes, Diameter	2 in.	Tank Capacity, Water	3,700 gals.
Tubes, Length	12 ft.	Tender Capacity, Coal	5 tons

101-124 c/n 38174 Schenectady 1905



Brooks built a dozen (651-662) Moguls for the P.R.R. in 1909. Here the 662, c/n 45856, holds up Central Avenue traffic as she departs Panama City on June 30, 1930.

46

CUBA

Area: 44,218 sq. mi.
Capital: Havana (Habana)
Largest City: Havana

Population: 5,469,000
Monetary Unit: Peso
Form of Govt.: Republic

SALES AT

SELLER																			
DATE																			
FORM	DESTINATION	Amt.	Com. No.	Clos. No.	Sold	Amount	C	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount		

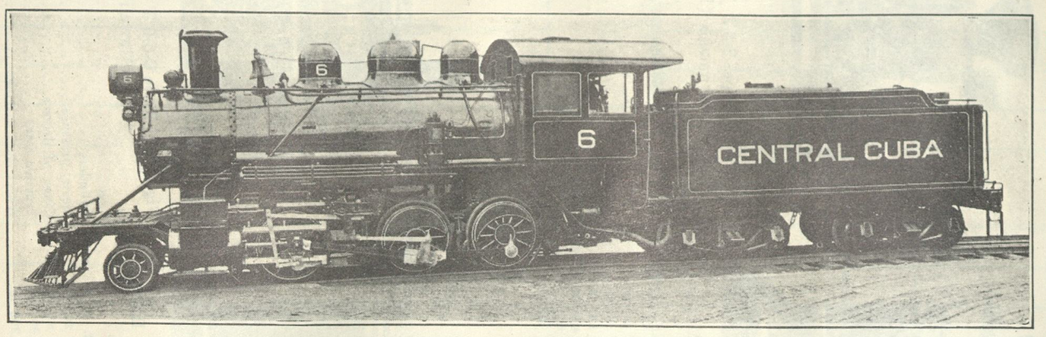
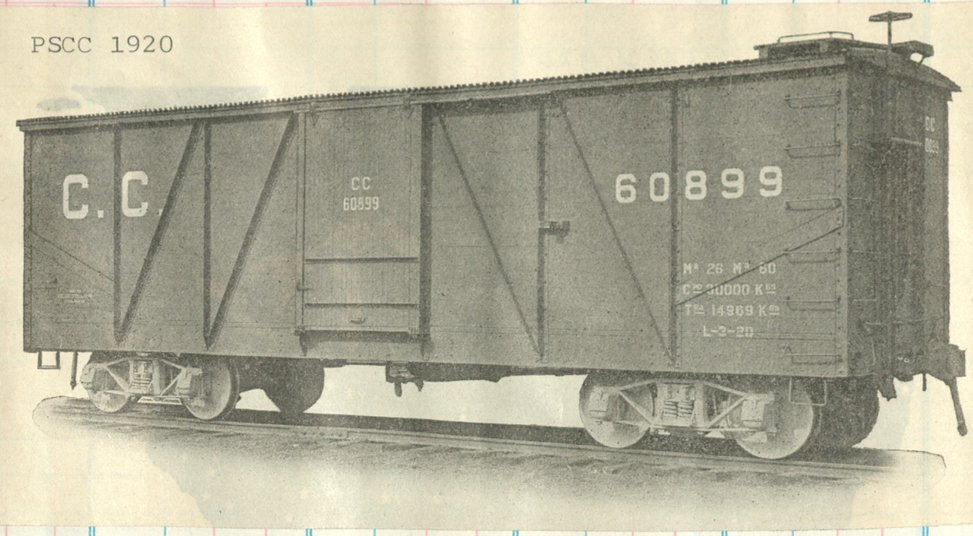
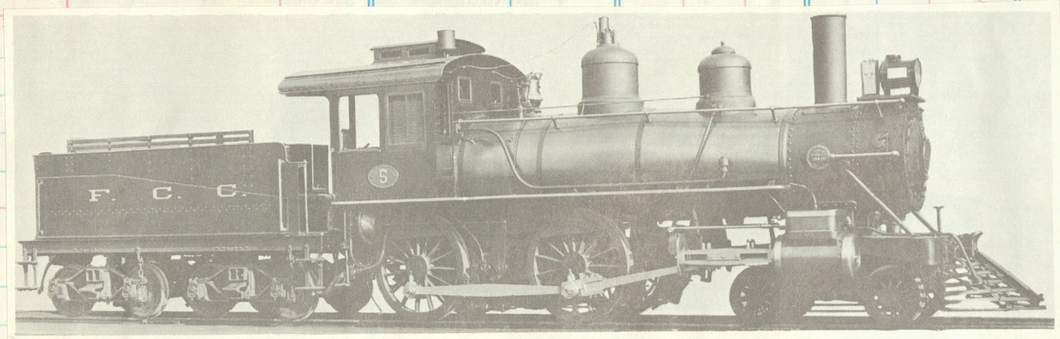


Fig. 3328—Mogul (2-6-0) Type Plantation Locomotive, Standard Gage. Built for Central "Cuba" by Vulcan Iron Works. 1921
c/n 3138

Gage	4 ft. 8½ in.	Engine wheel base	19 ft. 10 in.
Cylinders	19 in. x 24 in.	Heating surface, tubes and flues	1,639 sq. ft.
Steam pressure	180 lb.	Heating surface, firebox	133 sq. ft.
Diameter of drivers	50 in.	Heating surface, total	1,772 sq. ft.
Tractive force	26,510 lb.	Grate area	26.5 sq. ft.
Driving wheel base	11 ft. 9 in.		

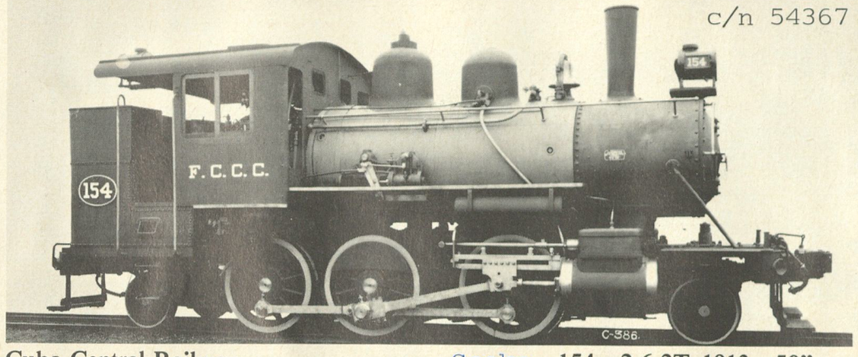
PSCC 1920



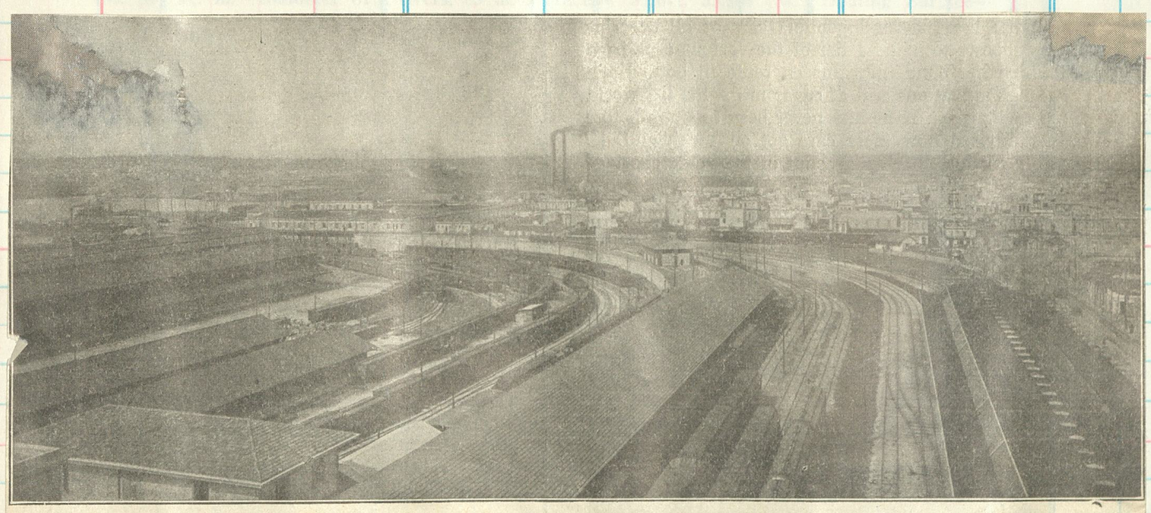


Central Railroad of Cuba #5, 1906, 4-4-0 type. Baldwin 1906 c/n 29674

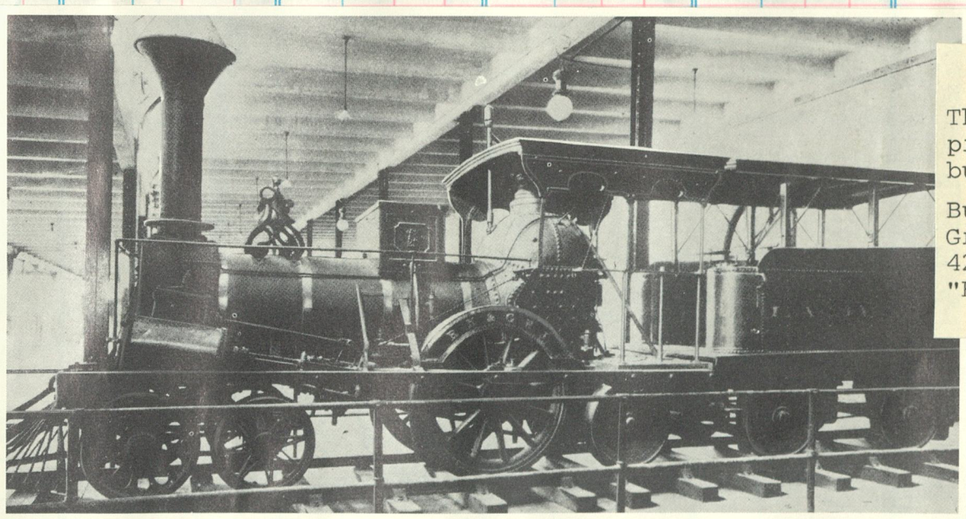
c/n 54367



Cuba Central Railway Cooke 154 2-6-2T 1913 50" 57T



View of the Train-Sheds and Viaduct Approach to the Central Station. Havana Terminal Freight Yards, Warehouses and Bay on the left (City of Havana)

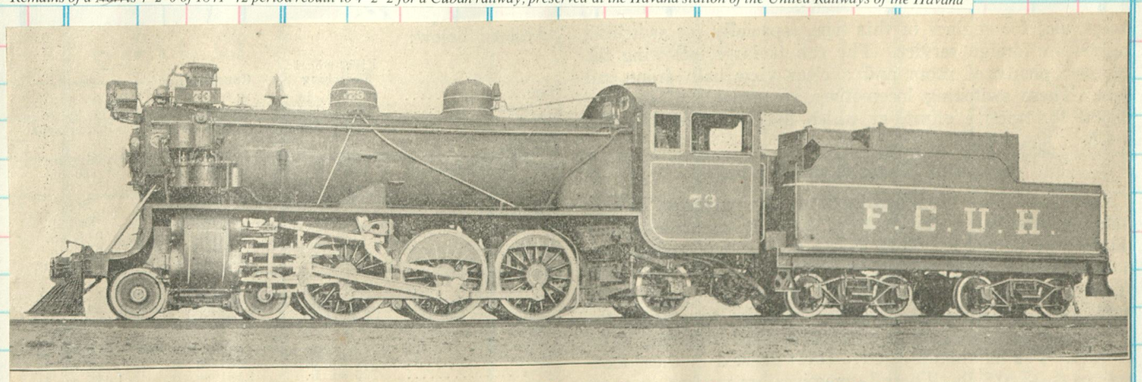


Remains of a ~~North~~ 4–2–0 of 1841–42 period rebuilt to 4–2–2 for a Cuban railway, preserved at the Havana station of the United Railways of the Havana

The "La Junta"

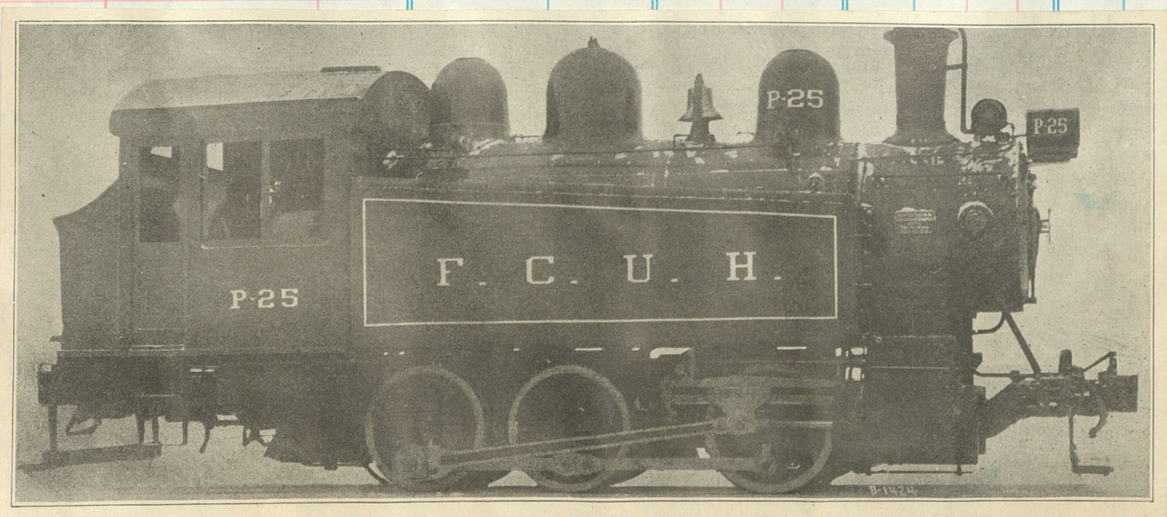
The most orginal and best preserved pre 1870 American built locomotive.

Built by Rogers, Ketchum & Grosvenor March 1843 c/n 42 as Matanzas & Savonilla "Rea Quinta de Formento".



Designed for Express Passenger Service Between Havana and Santiago

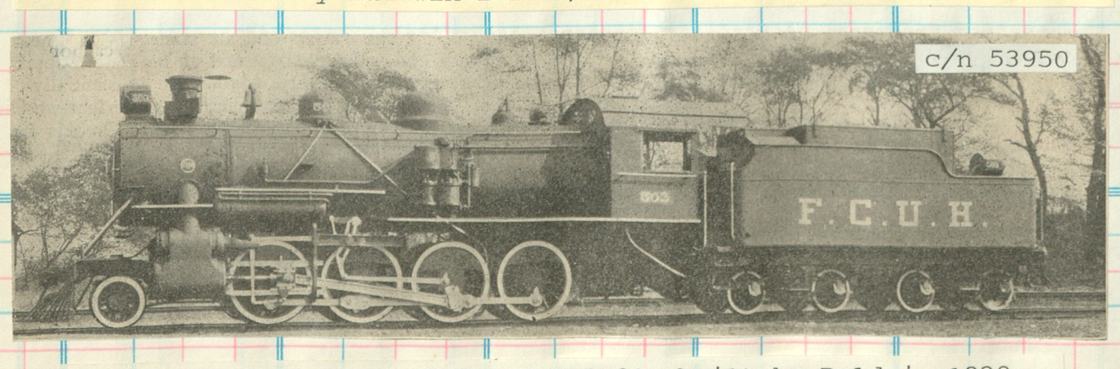
A truly audacious Pacific. Ten, nos 64-73, were delivered to the 'Unidos Habana' by Baldwin 1920 c/n 53674



Six Wheel Tank Engine Built by American Locomotive Co. for the United Railways of Havana.

24-26 c/n 56714 Brooks 1916

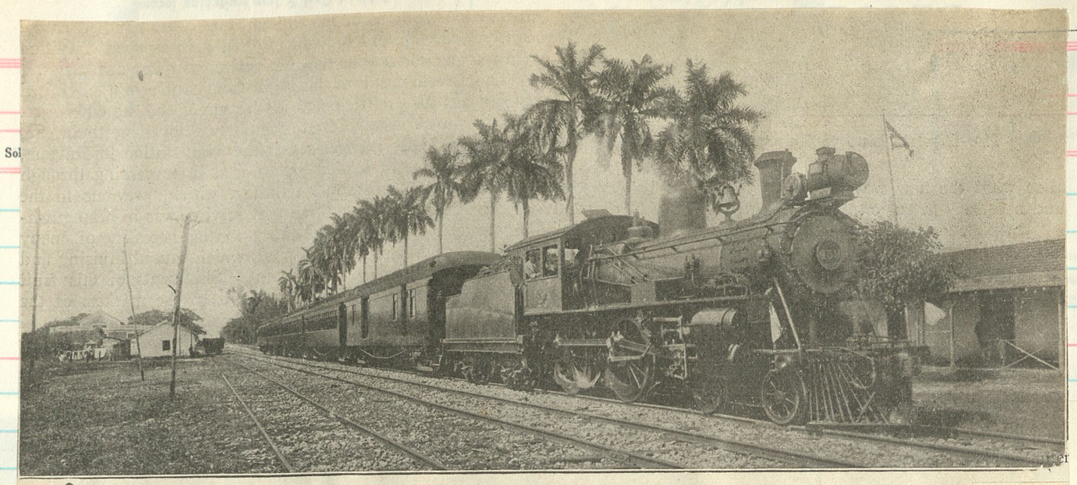
c/n 53950



One of the group, #503, of 2-8-0's built by Baldwin 1920

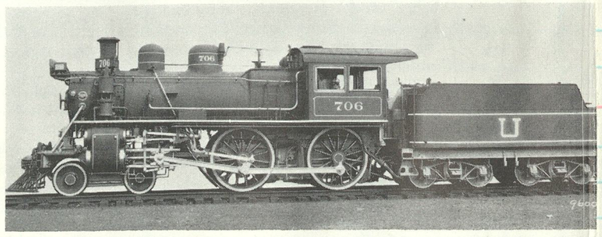
58961 47

Clos. No. | Sold | Amount



Havana Cienfuegos Express, Showing English Design of Superheater 4-4-0 Type and Characteristic Track on Central Railways of Havana.

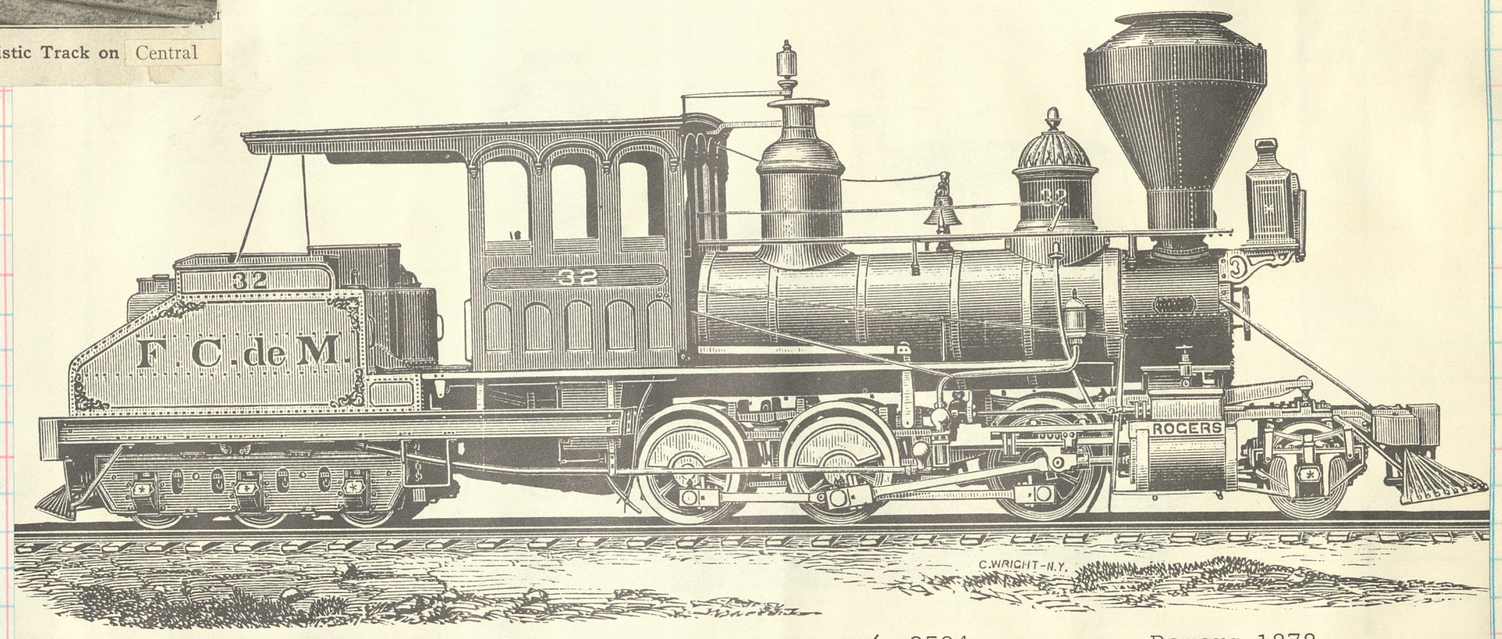
Cuban Government Prison Commission Gauge 3'-0" 1 2-6-2T 1927 30 1/2" 32T



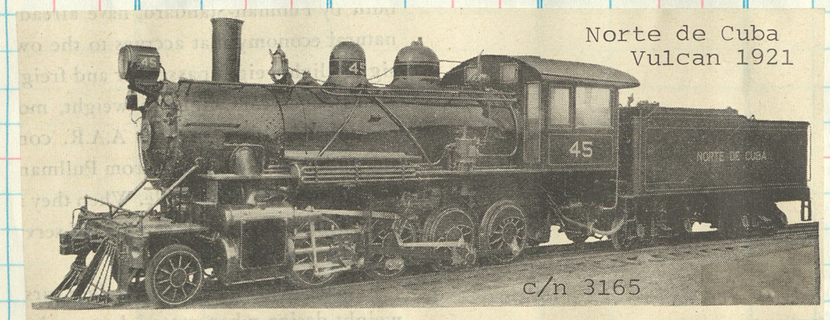
A BELPAIRE FIREBOX was used on this engine built for the Havana Central Railroad of Cuba. The 11" Westinghouse air compressor almost dwarfs the smokebox. This engine was operated in passenger service on standard (4'8½") gauge track. Fuel used was the 2,100 gallons of oil in the tank.

Cylinders, 18½" × 24" Boiler diameter, 55"
Drivers, 68" Weight, total engine, 119,600 lb.

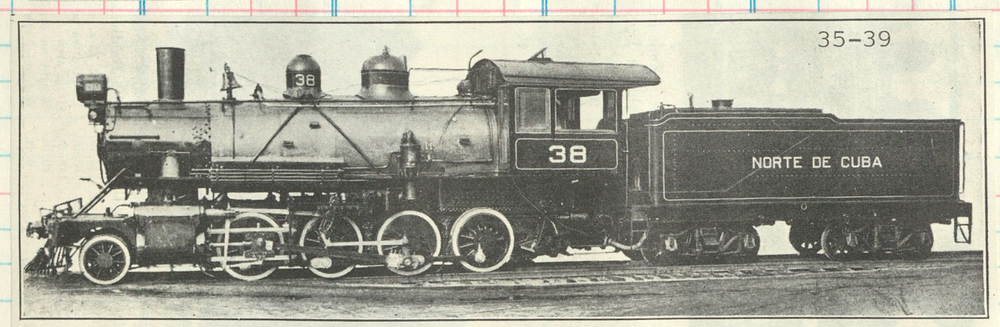
704-707 c/n 58633 Baldwin 1925



F C de Matanzas 30" gauge c/n 2504 Rogers 1878



Norte de Cuba
Vulcan 1921
c/n 3165



35-39

Fig. 3329—Consolidation (2-8-0) Type Freight Locomotive, Standard Gage. Built for Cuba Northern Railways by c/n 2997 Vulcan Iron Works. 1919

Gage	4 ft. 8½ in.	Total engine wheel base	22 ft. 8 in.
Cylinders	19 in. x 26 in.	Heating surface, tubes	1,738 sq. ft.
Steam pressure	180 lb.	Heating surface, firebox	132 sq. ft.
Diameter of drivers	48 in.	Heating surface, total	1,870 sq. ft.
Tractive force	29,915 lb.	Grate area	26.6 sq. ft.
Driving wheel base	14 ft. 6 in.		

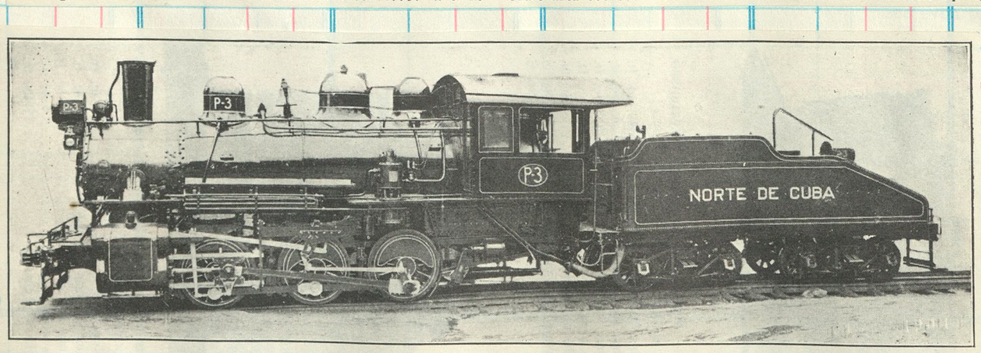
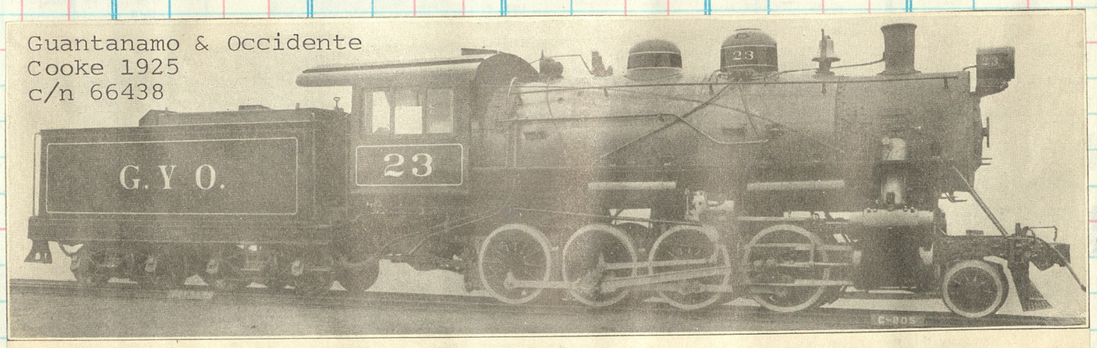


Fig. 3327—Six-Wheel (0-6-0) Switching Locomotive, Standard Gage. Built for Cuba Northern Railways by Vulcan c/n 3154 Iron Works. 1921

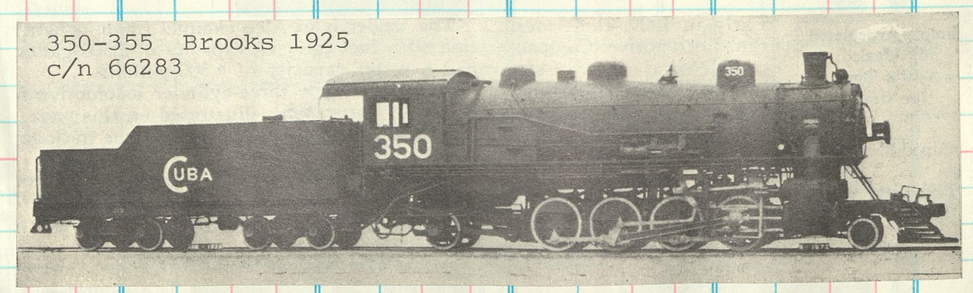
Gage	4 ft. 8¼ in.	Heating surface, tubes	1,047 sq. ft.
Cylinders	18 in. x 24 in.	Heating surface, firebox	90 sq. ft.
Steam pressure	180 lb.	Heating surface, total	1,137 sq. ft
Diameter of drivers	48 in.	Superheating surface	222 sq. ft.
Tractive force	24,785 lb.	Grate area	21.8 sq. ft.
Driving wheel base	10 ft. 6 in.		

Guantanamo & Occidente
Cooke 1925
c/n 66438

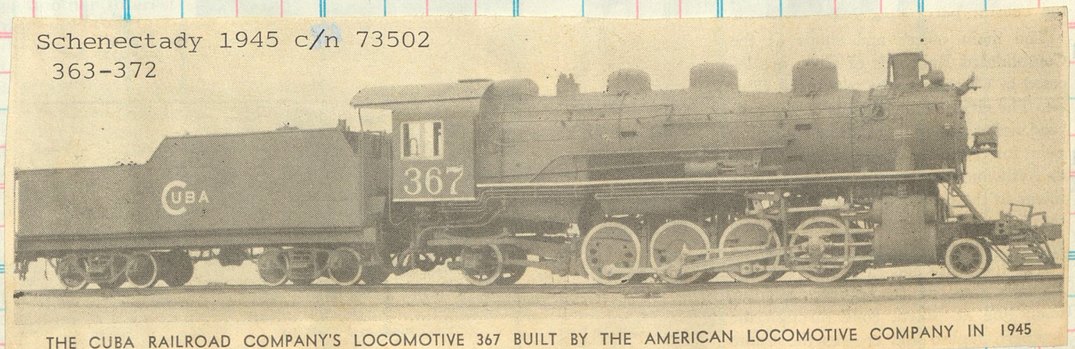


Consolidation (2-8-0) Type Freight Locomotive Built by American Locomotive Co.

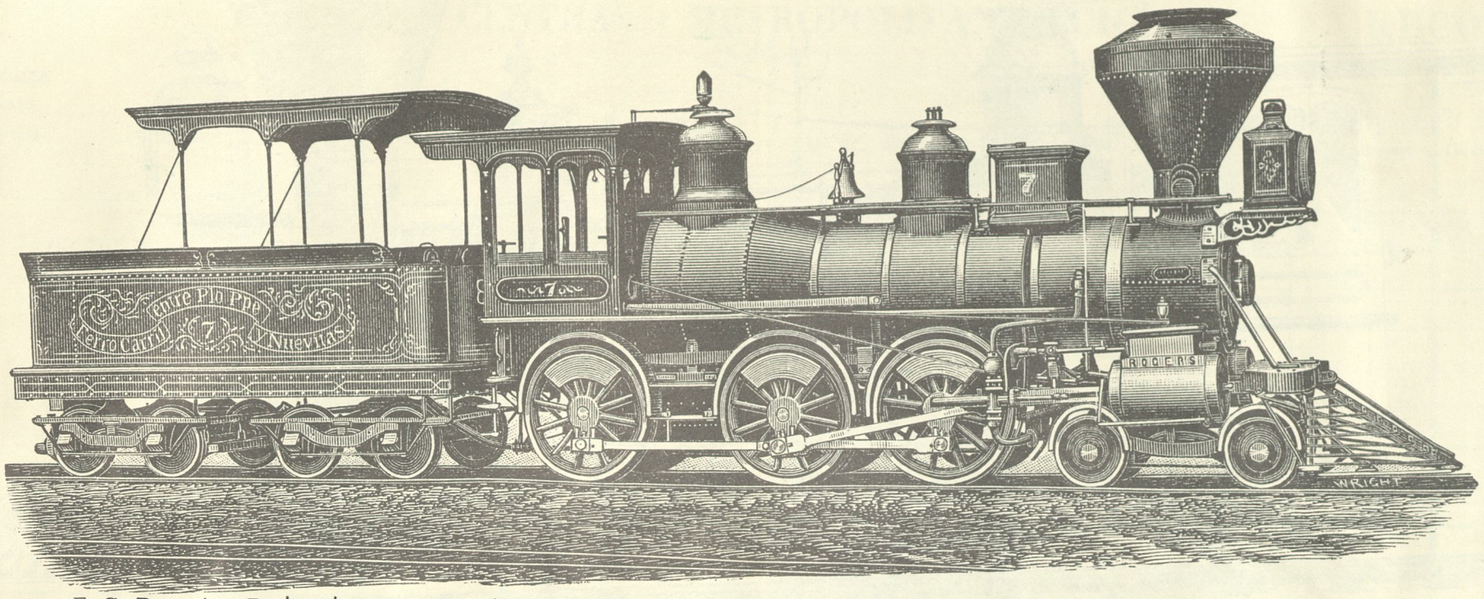
350-355 Brooks 1925
c/n 66283



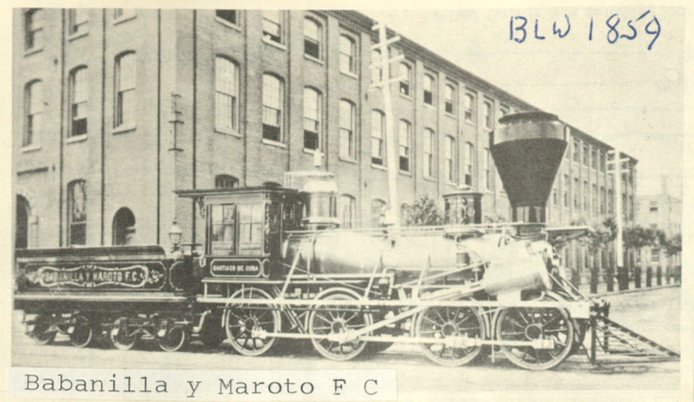
Schenectady 1945 c/n 73502
363-372



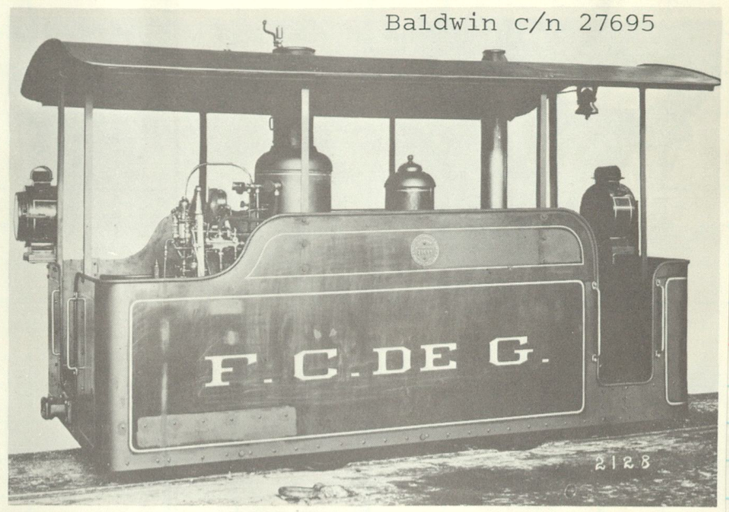
THE CUBA RAILROAD COMPANY'S LOCOMOTIVE 367 BUILT BY THE AMERICAN LOCOMOTIVE COMPANY IN 1945



F C Puerto Principe y Neuvitas #7 5' gauge c/n 2406 Rogers 1875



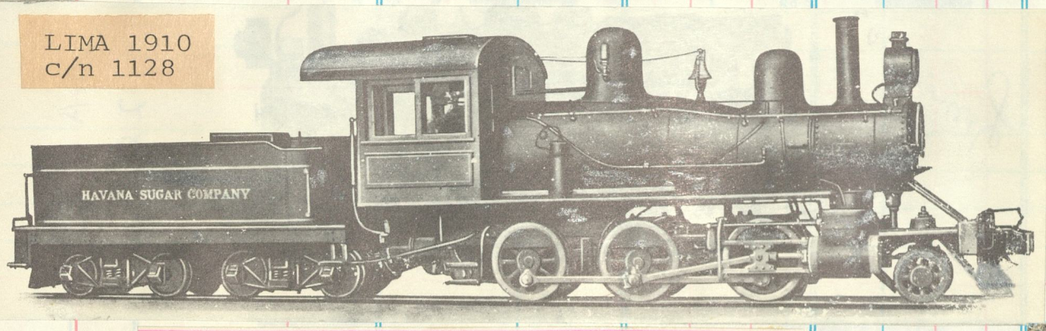
Babanilla y Maroto F C



Baldwin c/n 27695

Guantanamo Railroad of Cuba, 1906, 0-4-0T steam dummy type.

LIMA 1910
c/n 1128

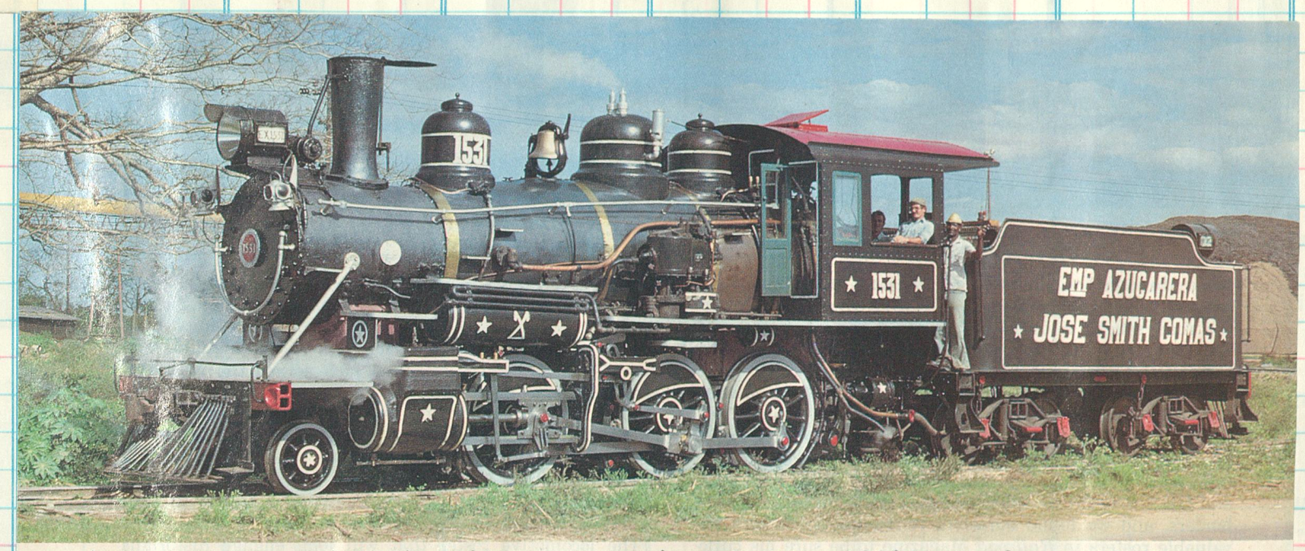


Ordered by the Cuban-American Sugar Co.

c/n 56639 1923

Fig. 3316—Type 0-6-2 T Tank Locomotive for Plantation Service. Built for Central San Ramon (Cuba) by The Baldwin Locomotive Works.

Gage	2 ft. 10 in.	Heating surface, tubes	255 sq. ft.
Cylinders	9 in. x 16 in.	Heating surface, firebox	29 sq. ft.
Steam pressure	170 lb.	Heating surface, total	284 sq. ft.
Diam. of drivers	33 in.	Grate area	7.16 sq. ft.
Tractive force	6,675 lb.	Weight on drivers	33,900 lb.
Wheel base, driving	6 ft. 10 in.	Weight of engine	39,400 lb.
Wheel base, engine	13 ft. 1 in.	Fuel	Soft coal



This Cooke Mogul (1925) still at work in February 1981: Gardenas, Cuba

c/n 44283
1916

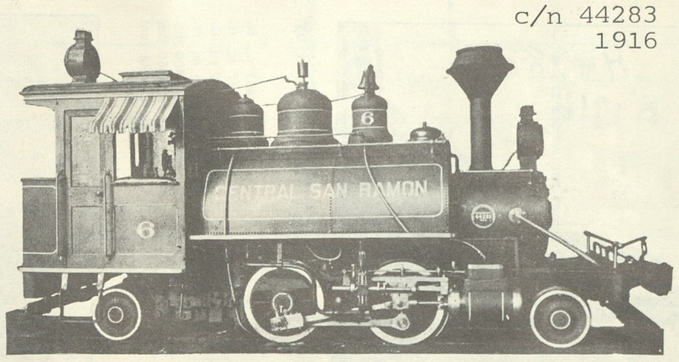
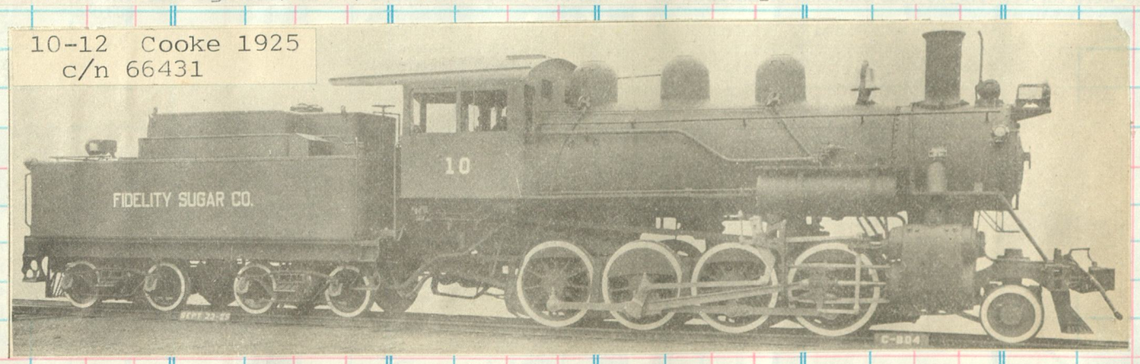
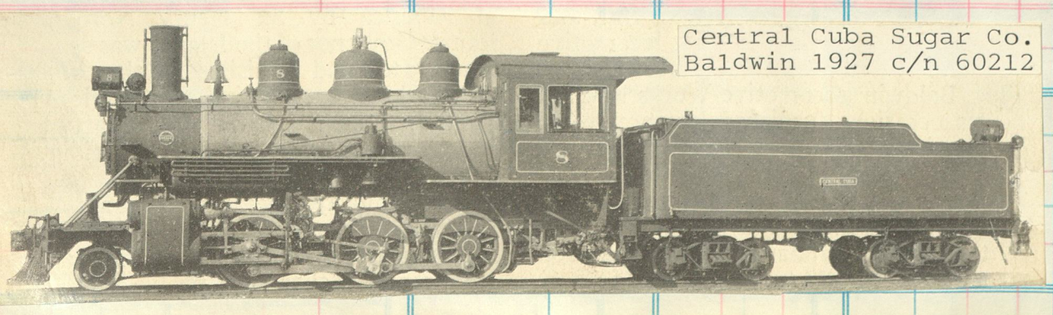


Fig. 48—Four-Coupled (2-4-2) Saddle Tank Locomotive for Plantation Service. Built for Central San Ramon, Cuba, by the Baldwin Locomotive Works.

Gage	3 ft.	Heating Surface, Tubes	170 sq. ft.
Cylinders	9 in. x 14 in.	Heating Surface, Firebox	27 sq. ft.
Steam Pressure	160 lbs.	Heating Surface, Total	197 sq. ft.
Diam. of Drivers	33 in.	Grate Area	6.3 sq. ft.
Tractive Effort	4,660 lbs.	Weight on Drivers	20,600 lbs.
Rigid Wheel Base	4 ft.	Weight, Total	33,800 lbs.
Total Wheel Base	15 ft.	Fuel	Soft coal

10-12 Cooke 1925
c/n 66431

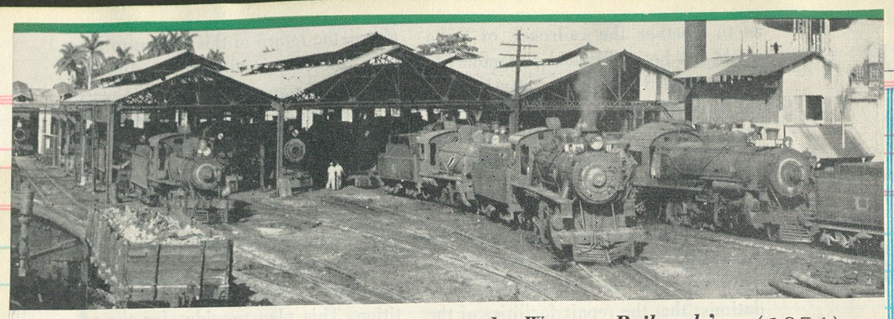




Central Cuba Sugar Co.
Baldwin 1927 c/n 60212

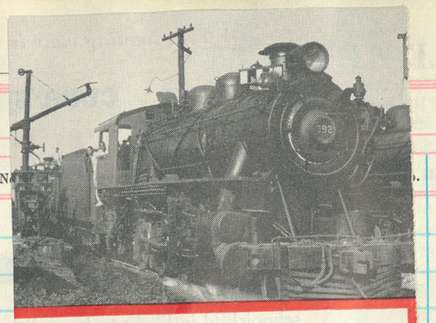
CENTRAL ESPARTACO'S 30-inch-gauge Baldwin 2-8-0 1328 near Manaquitas in Cienfuegos Province with oxen helpers.

Clos. No. | Sold

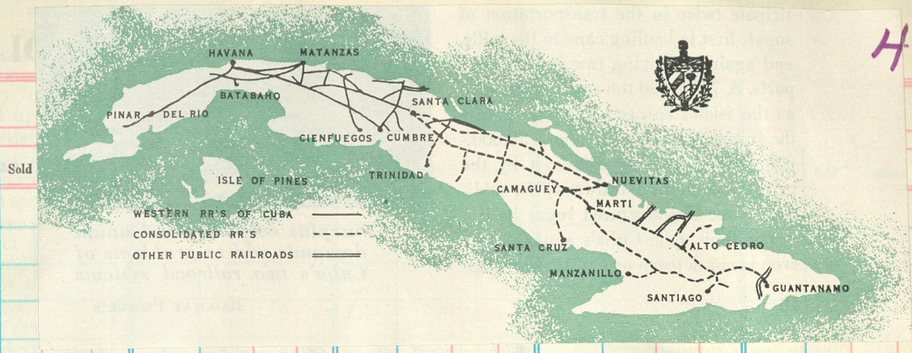


These ancient steam locomotives at the Western Railroads' shops at Havana are typical of system's motive power. All power on system, with exception of two diesels, is steam (1954)

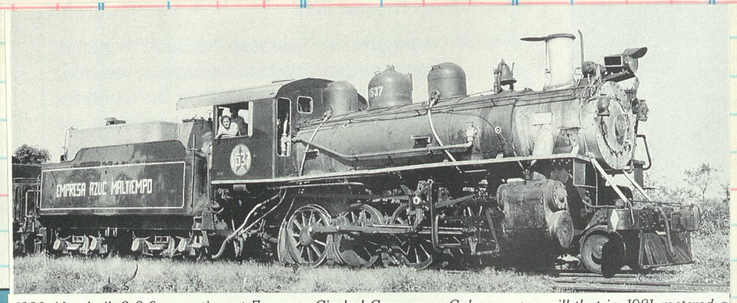
Clos. No. | Sold



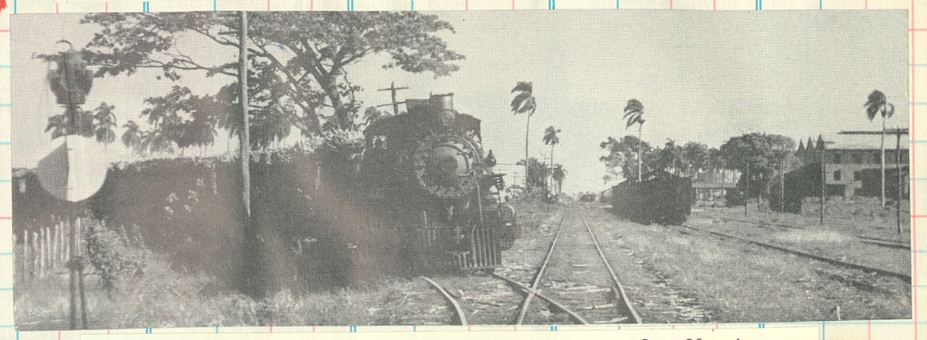
On Western Railroads this 1920 locomotive is comparatively new



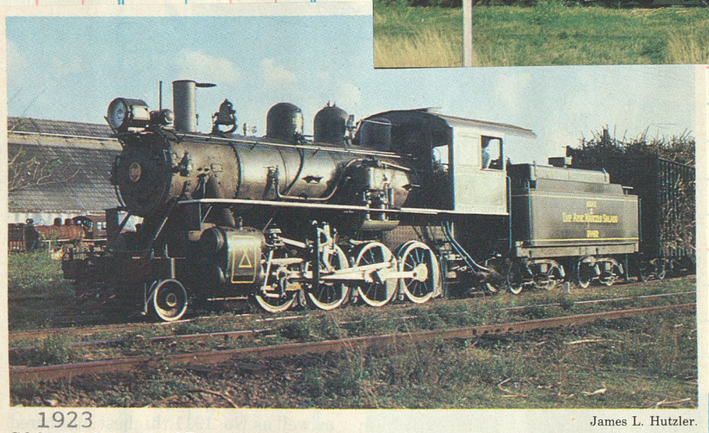
Pablo de la Torriente Brau No. 1501 at Bramales, Cuba. Thomas Lawson Jr.



1920 Alco-built 2-8-0 operating at Empresa Ciudad Caracas, a Cuban sugar mill that in 1981 rostered a half dozen standard gauge 2-6-0s, 2-6-2s and 2-8-0s.

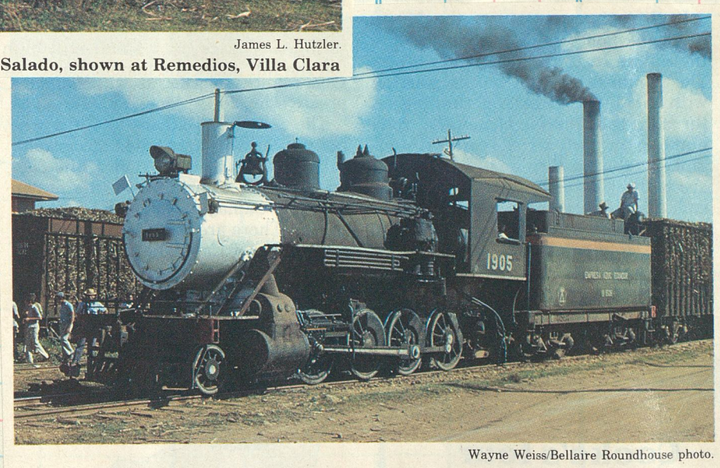


Picking up loads of sugar cane on the Western



1923 James L. Hutzler.

COOKE 2-8-0 1549 of Emp. Azuc. Marcelo Salado, shown at Remedios, Villa Clara



Wayne Weiss/Bellaire Roundhouse photo.

THE only known secondhand U.S. steam engine in Cuba is Empresa Azucarera Ecuador No. 1905, a Baldwin 2-8-0 built in 1910 as the Grafton & Upton's No. 6.

Thomas Lawson Jr.

PHOTOGRAPHER Lawson asserts that his photo dispels two generally accepted notions about railroading in the Western Hemisphere, i.e., there are no railroad tunnels in Cuba; and there are no tunnels on any sugar plantation railroad. For we see here Empresa Azucarera Esteben Hernandez No. 2, a 30-inch-gauge Porter 2-6-2 (1919), blasting through a grade-top tunnel just south of Guipuzcoa, Cuba, while en route back to the canefields with eight empties on March 4, 1980.

C/n 2459
Built 1915

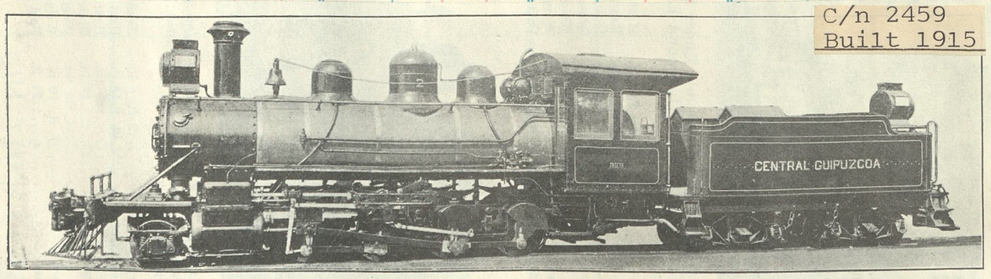
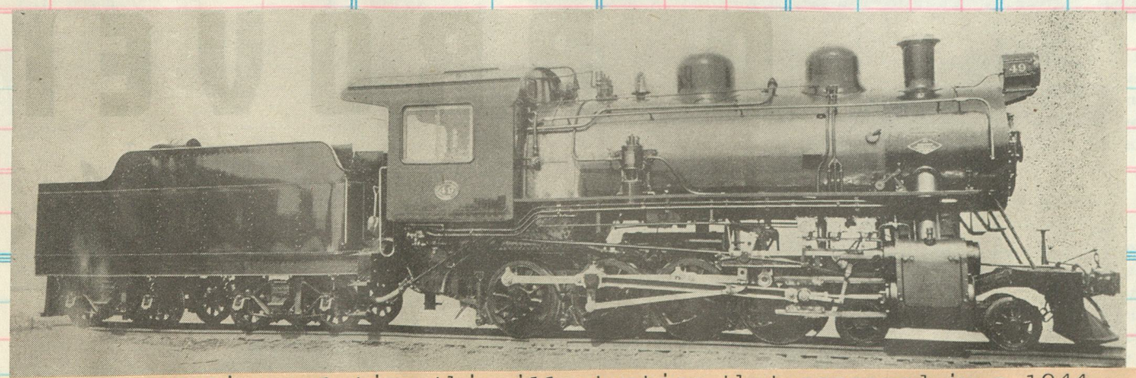


Fig. 69—Consolidation (2-8-0) Locomotive for Freight Service. Built for Central Guipuzcoa, Cuba, by the Vulcan Iron Works.

Gage	2 ft. 6 in.	Heating Surface, Tubes	940 sq. ft.
Cylinders	14 in. x 22 in.	Heating Surface, Firebox	64 sq. ft.
Steam Pressure	180 lbs.	Heating Surface, Total	1,004 sq. ft.
Diam. of Drivers	36 in.	Grate Area	15.5 sq. ft.
Tractive Effort	16,655 lbs.	Weight on Drivers	67,500 lbs.
Rigid Wheel Base	10 ft. 9 in.	Weight, Total	82,800 lbs.
Total Wheel Base	17 ft. 9 in.	Fuel	Soft coal

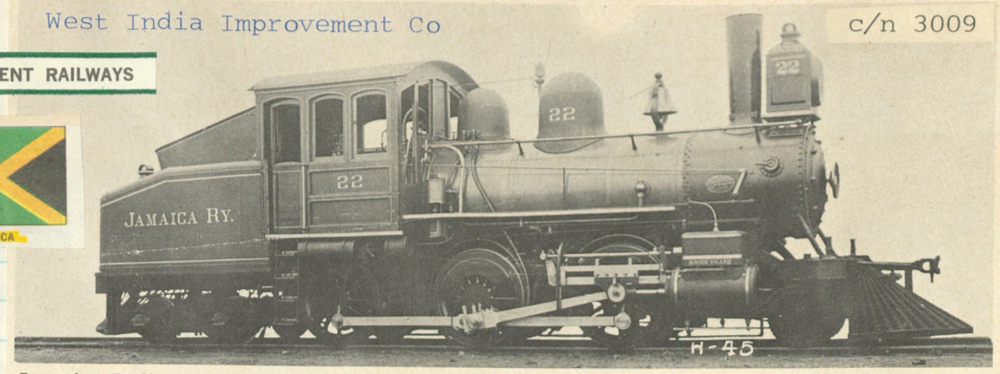
#54 charges across a span near Troja with a passenger special. One of six 4-8-0's blt by Canadian 1944 c/n 2123.

On the table at Port Antonio



There's a question relative this illustration that appeared in a 1944 issue of RAILWAY AGE. This is of engine #49 but caption stated it was six engines being built by Canadian. Builders record for the six engines indicates they were numbered 51-56, c/n's 2120-2125.

West India Improvement Co c/n 3009



Jamaica Railway — Jamaica 22 2-6-4T 1894 50" Rhode Is.

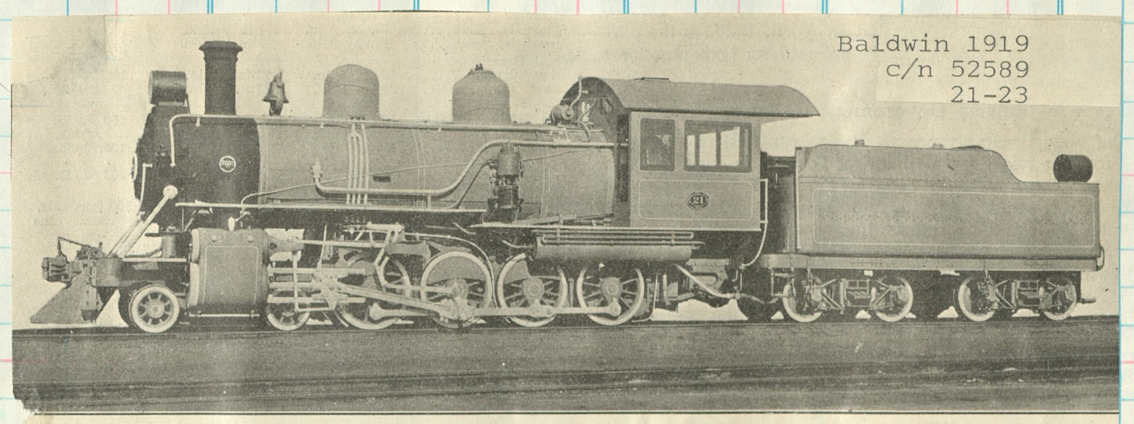
Jamaica Government Ry.

#40 c/n 43559

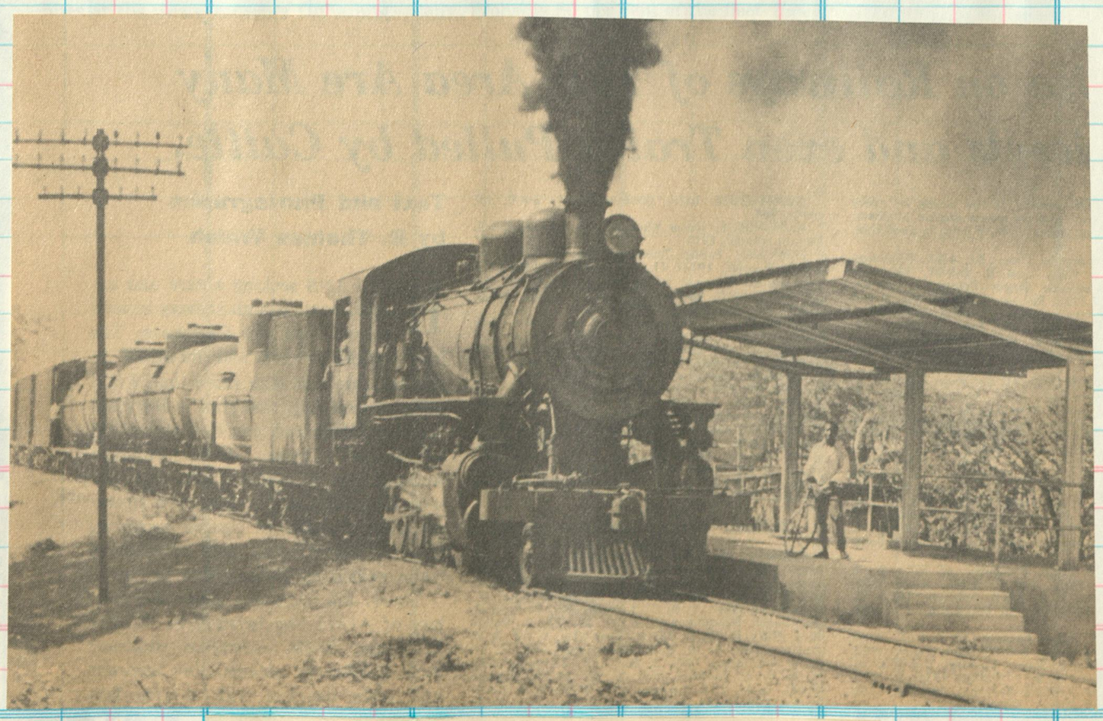
Special Train Conveying Their Royal Highnesses the Duke and Duchess of York from Ewarton to Kingston, on January 21, 1927

The locomotive is one of the Mountain (4–8–2) type locomotives built by The Baldwin Locomotive Works in 1916. The locomotive was named "Duchess of York" in honor of the occasion.

Baldwin 1919
c/n 52589
21-23



Heavy Standard Gage Jamaican Locomotive



Working with tonnage past Angeles, 1964

DOMINICAN REPUBLIC

A P R-46 5-74 100 bks. (Eureka 29387) Printed in U. S. A.

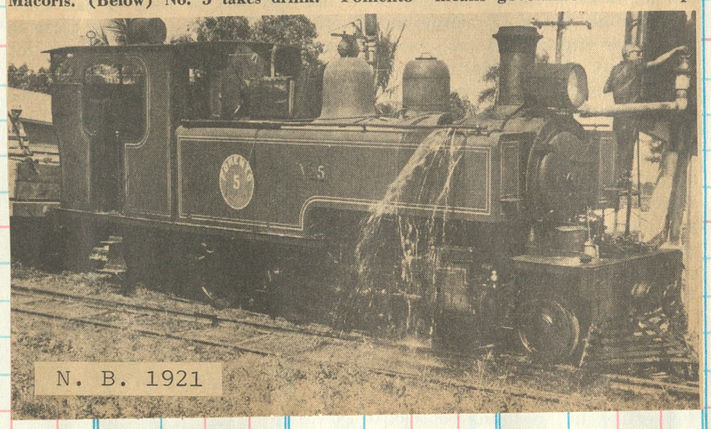
CUT HERE To Make Short Sheet

51

Clos. No. | Sold | Clos. No. | Sold | Amount

#4 North British 1914

Engines 4 and 5 of La Vega-Sanchez Railroad, Dominican Republic, were built in 1921 by North British, and looked it, except for headlights and cowcatchers. Both were 2-6-2T types. (Above) No. 4 hauls cacao for export near San Francisco de Macoris. (Below) No. 5 takes drink. "Fomento" means government ownership.



N. B. 1921

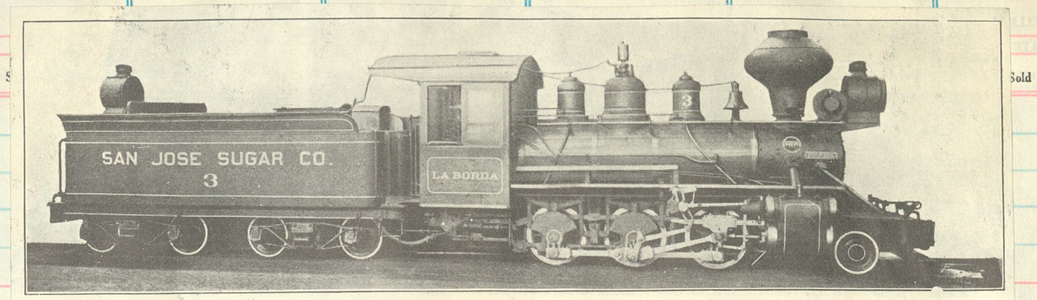
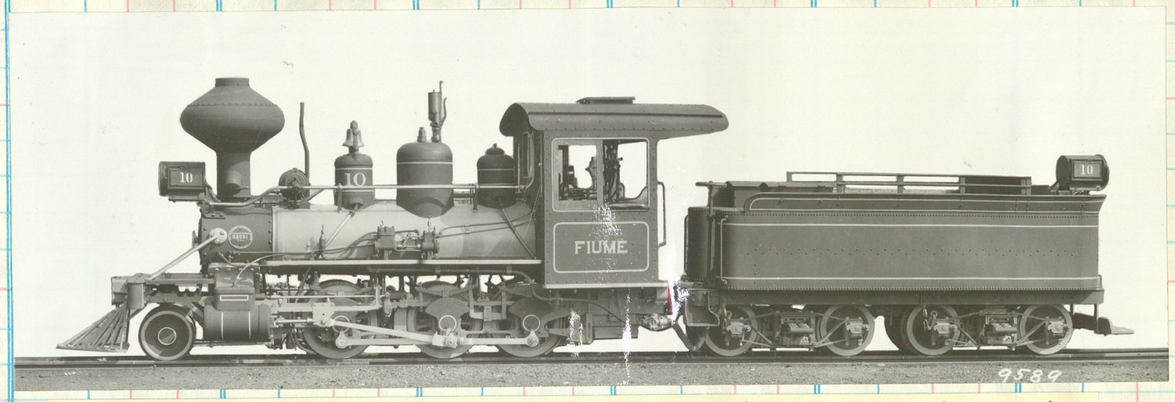
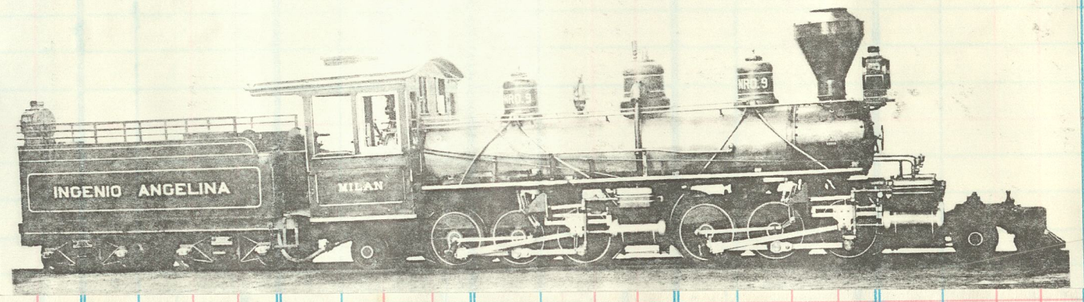


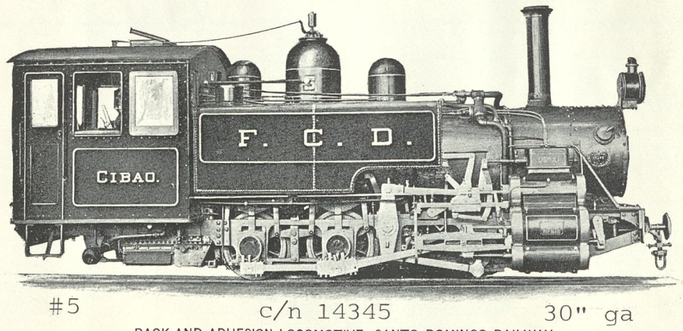
Fig. 55—Mogul (2-6-0) Locomotive for Plantation Service. Built for San Jose Sugar Co., Santo Domingo, by the Baldwin Locomotive Works. 1917 c/n 45935 60 cm



Another little 60 cm 2-6-0 was the FIUME built for Ingenio Italis by Baldwin in 1925 c/n 58591

Baldwin 1908 30" gauge c/n 33008

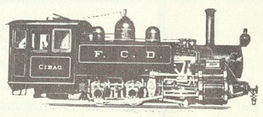




#5 c/n 14345 30" ga

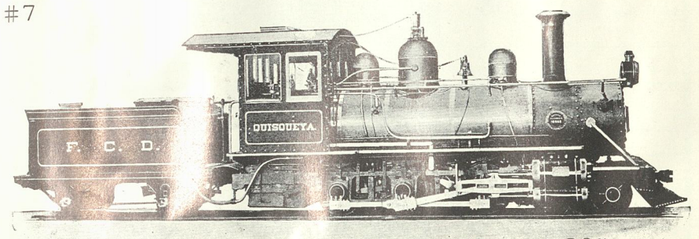
RACK AND ADHESION LOCOMOTIVE, SANTO DOMINGO RAILWAY.

In July, 1895, a combination rack and adhesion locomotive was constructed for the San Domingo Improvement Company. This locomotive was designed by Messrs. Wm. P. Henszey and S. M. Vauclain, and was made the subject of a patent. It had compound cylinders 8 inches and 13 inches diameter by 18 inches stroke to operate two pairs of coupled adhesion wheels, and a pair of single expansion cylinders, 11 inches by 18 inches, to operate a single rack wheel constructed upon the Abt system. It was furnished with two complete sets of machinery, entirely independent of each other, and was built with the view eventually to remove the rack attachments and operate by adhesion alone.



Combination Rack and Adhesion Locomotive
San Domingo Improvement Co.

#7



Baldwin 1899 c/n 16666 30" ga

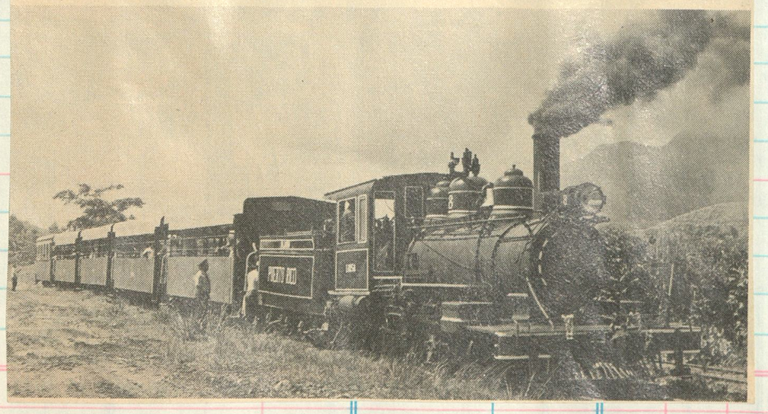
NARROW-GAUGE MOGUL LOCOMOTIVE, CENTRAL DOMINICAN RAILWAY.

PUERTO RICO

Area: 3,435 sq. mi.
Capital: San Juan
Largest City: San Juan
Population: 2,240,000
Monetary Unit: U.S. Dollar
Form of Govt.: Commonwealth

The tropical rain forest, El Yunque, lives up to its name by a typical downpour. The trackwatcher seems to be unperturbed and #8, a 2-8-0, seems to enjoy being washed off. Built as Central Pasto Viego #8 by Baldwin 1927 c/n 60181 (??)

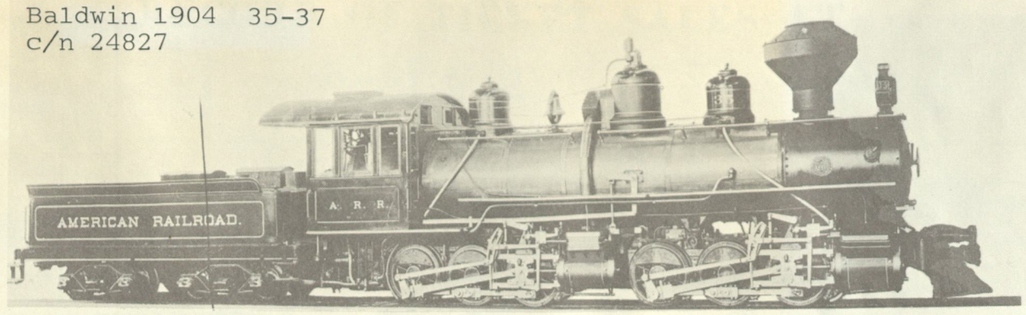
Live steam in Puerto Rico; No. 8 is a Baldwin-built ex-Sugar Associates 2-8-0.



Total

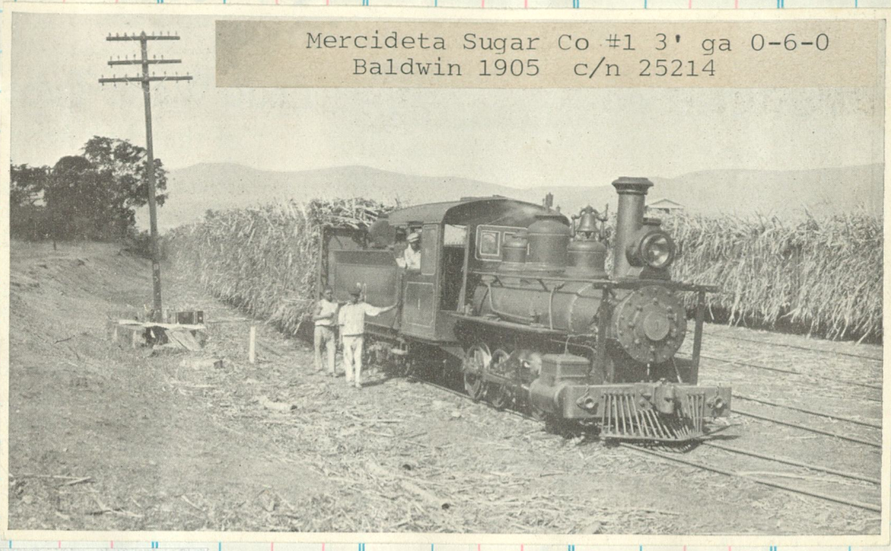
Total

Baldwin 1904 35-37
c/n 24827



American Railroad of Puerto Rico #35, 1904, 0-6-6-0 type.

Mercideta Sugar Co #1 3' ga 0-6-0
Baldwin 1905 c/n 25214



Baldwin 1927
c/n 60195
gauge 2'6"

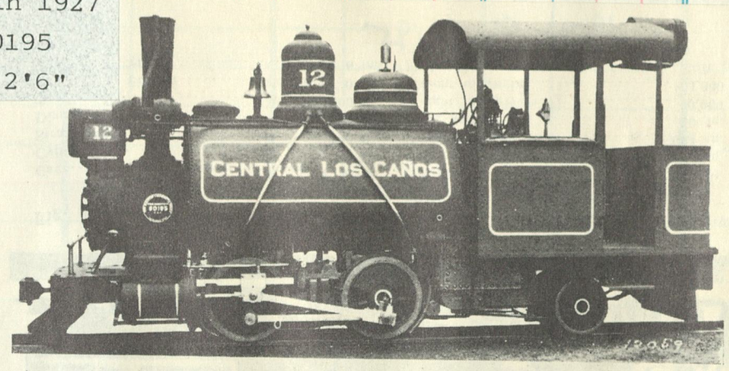
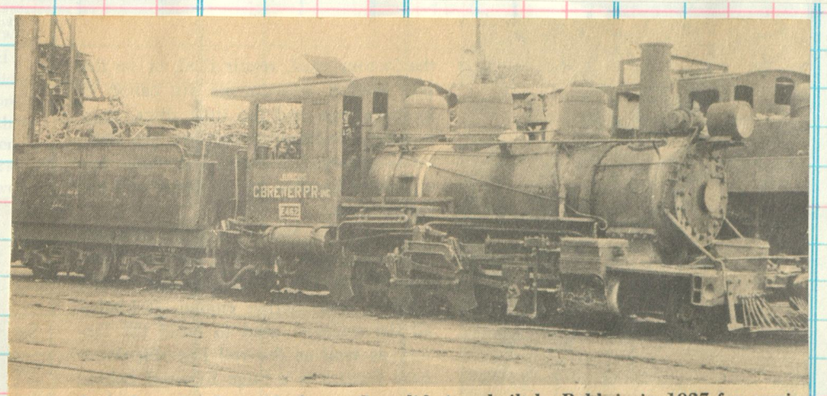


Fig. 3317—Type 0-4-2 T Tank Locomotive for Plantation Service. Built for Central Los Caños (Porto Rico) by The Baldwin Locomotive Works.

Gage	2 ft. 2 in.	Heating surface, tubes	147.1 sq. ft.
Cylinders	8 in. x 12 in.	Heating surface, firebox	24.4 sq. ft.
Steam pressure	160 lb.	Heating surface, total	171.5 sq. ft.
Diameter of drivers	28 in.	Grate area	6.27 sq. ft.
Tractive force	3,730 lb.	Weight on drivers	21,900 lb.
Wheel base, driving	3 ft. 9 in.	Weight of engine	28,200 lb.
Wheel base, engine	9 ft. 7 in.	Fuel	Soft coal



One of a pair of outside-frame Consolidations built by Baldwin in 1927 for service at C. Brewer Sugar Company's Juncas mill, in Puerto Rico. They are no longer used.

160372?

Clos.No. Sold Amount

APR-46 5-74 100 bks. (Eureka 29387) Printed in U. S. A.

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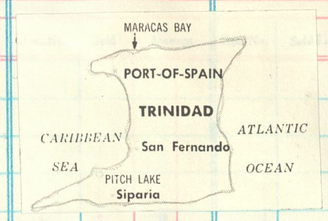
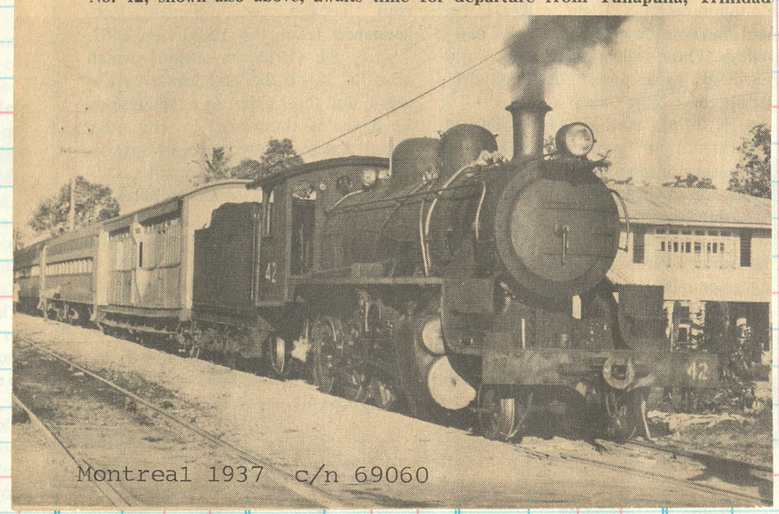
Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos.No.	Sold	Amount

TRINIDAD

Ten-wheeler No. 28 of the Trinidad Public Transport Service Corporation at the end of her run at Tunapuna.



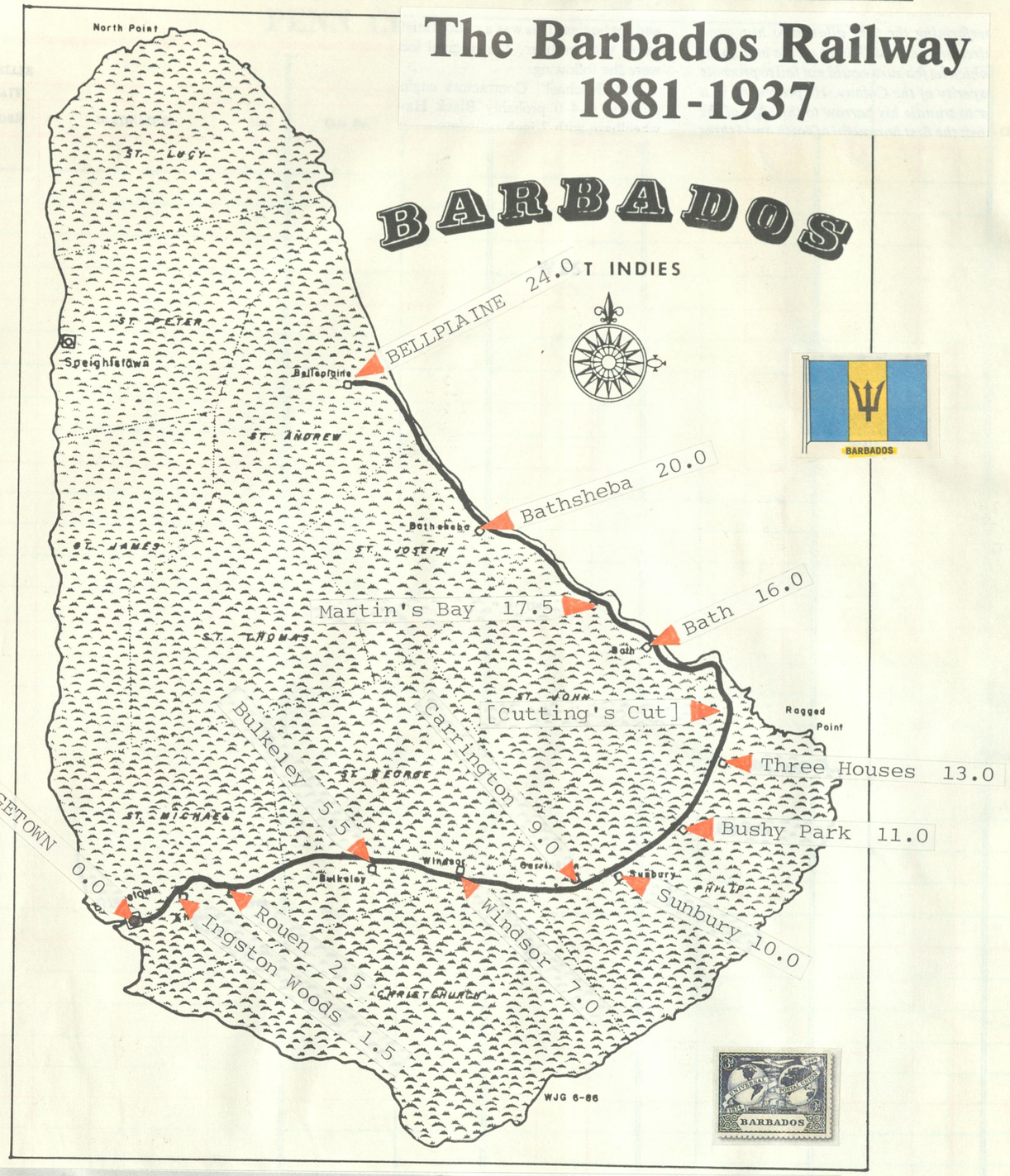
No. 42, shown also above, awaits time for departure from Tunapuna, Trinidad

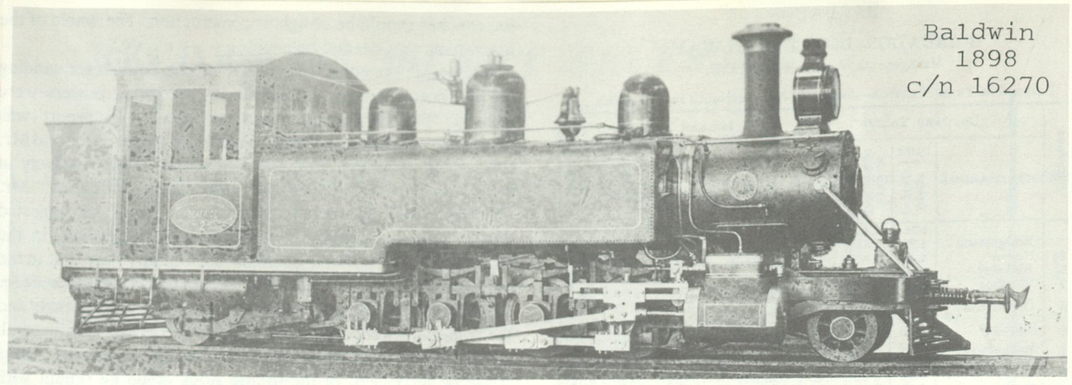


La Fortunee Estate — Trinidad, B.W.I. 0-4-2T 1920 33 1/2"

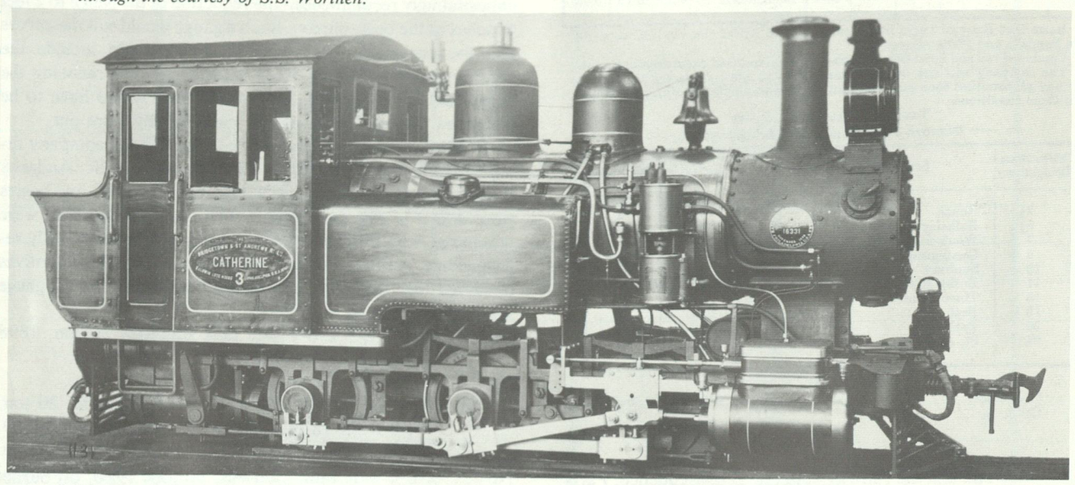
54

The Barbados Railway 1881-1937

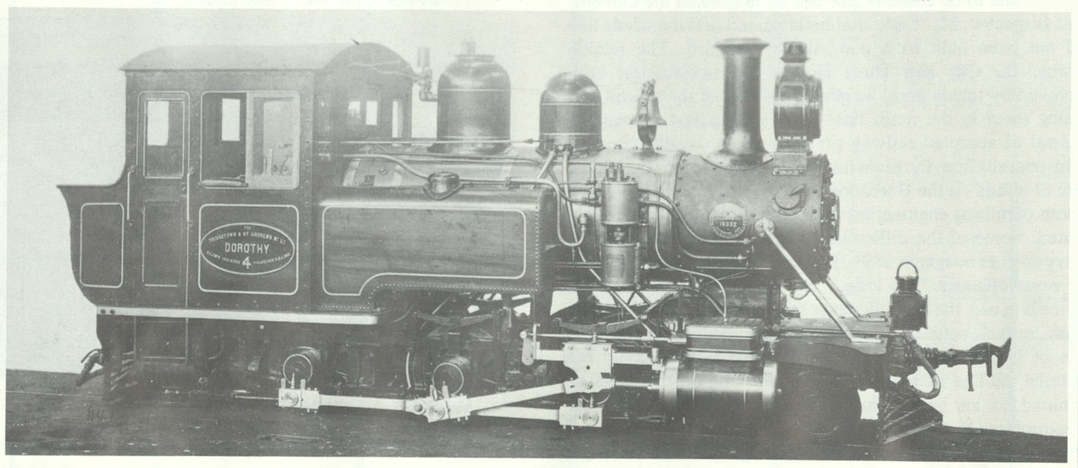




Bridgetown & St. Andrews Railway Limited 2-8-2 No. 2 'Beatrice' builders photo courtesy H.L. Broadbelt Collection, through the courtesy of S.S. Worthen.

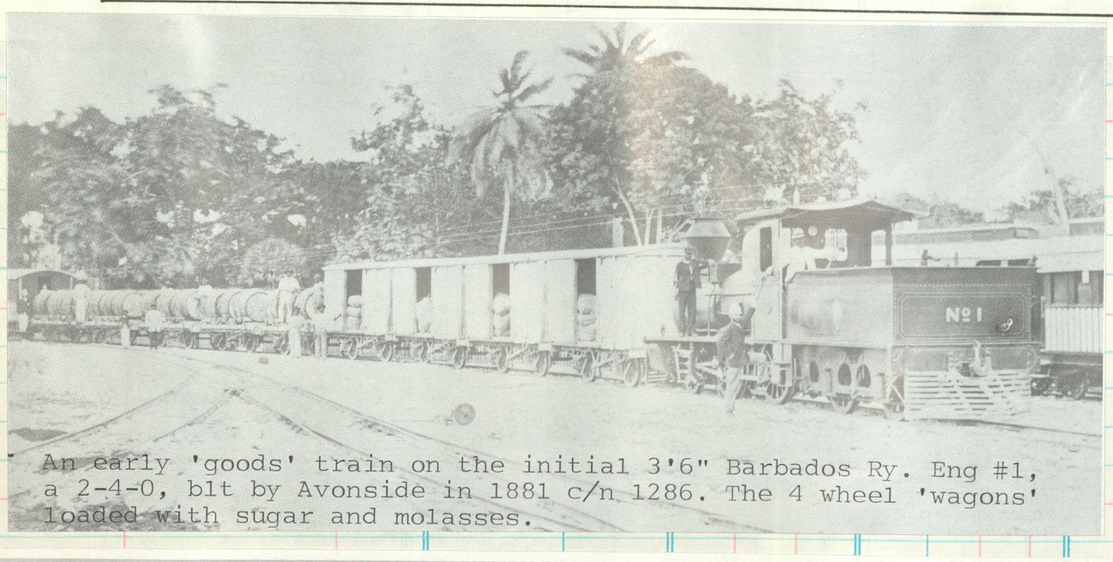


Bridgetown & St. Andrews Railway Limited 0-6-0 No. 3 'Catherine' built by Baldwin Locomotive Works in 1898, builders number 16331. Photo H.L. Broadbelt Collection, courtesy of S.S. Worthen. in 1920 renoed #5



Bridgetown & St. Andrews Railway Limited 2-6-0 No. 4 'Dorothy' Baldwin 1898, builders number 16332. Photo H.L. Broadbelt Collection, courtesy of S.S. Worthen.

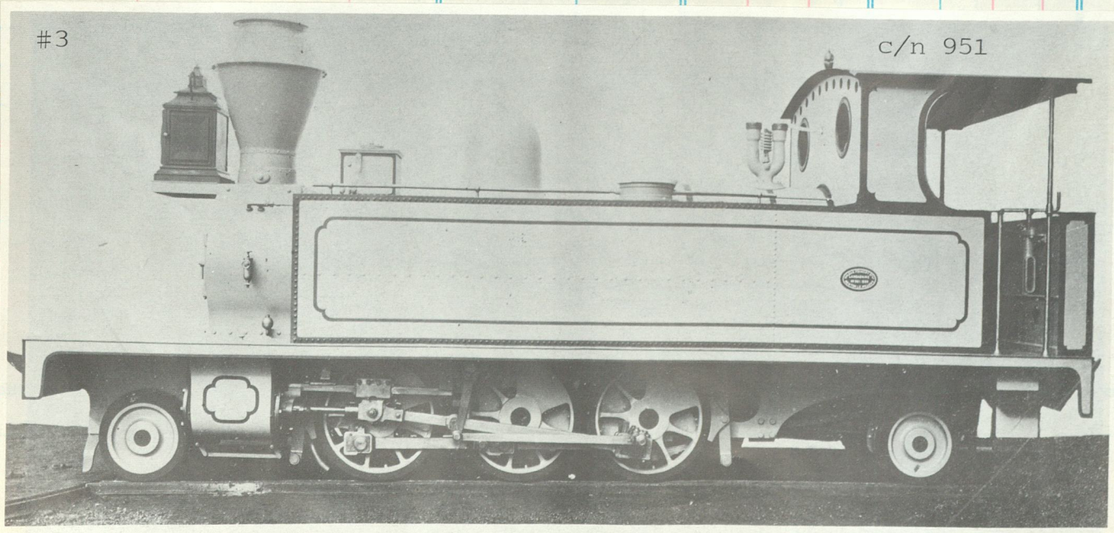
Three of the four little 'coffeewarmers' delivered when the gauge was reduced to 2'6" and the road renamed Bridgetown & St Andrews Ry in 1898.



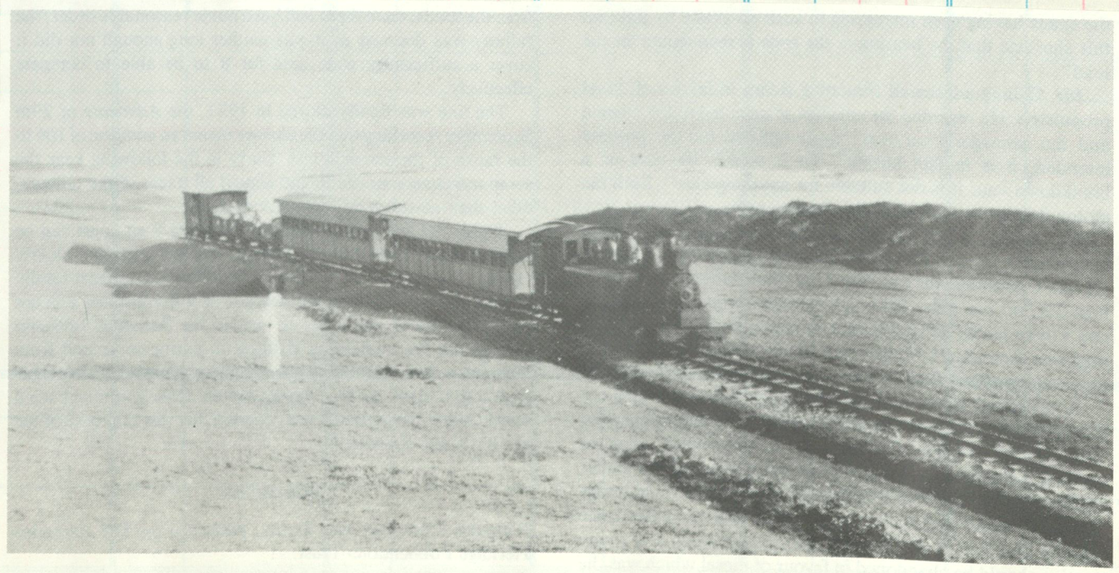
An early 'goods' train on the initial 3'6" Barbados Ry. Eng #1, a 2-4-0, b1t by Avonside in 1881 c/n 1286. The 4 wheel 'wagons' loaded with sugar and molasses.

Orginal Bridgetown terminal

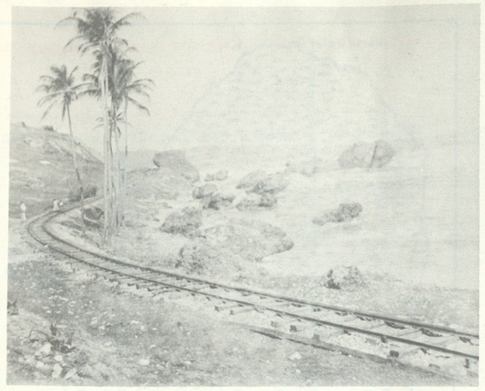
The Bathsheba Coast with the 2'6" narrow gauge railway clearly visible around 1920. Photo Credit 'Barbados Yesterday & Today'



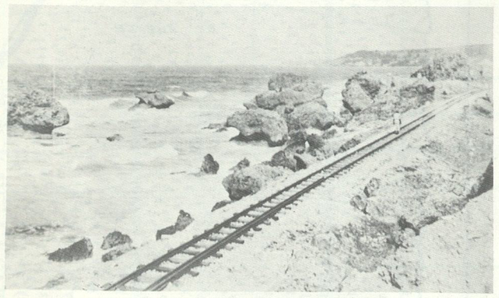
One of the original 3'6", 2-6-2 side tank Barbados locomotives built by Vulcan Foundry Ltd., Avonside Works, Newton le Willows, Lancashire, England in 1880/81.



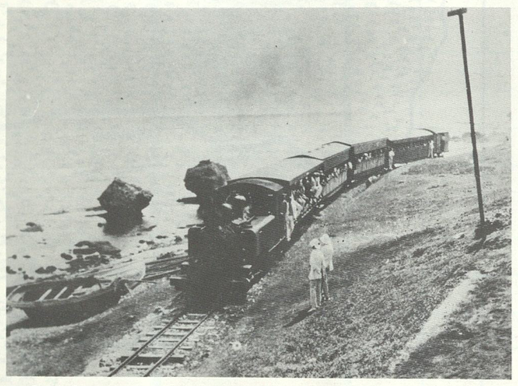
The 'mixed train' at Cattlewash near the outer terminus of the line.



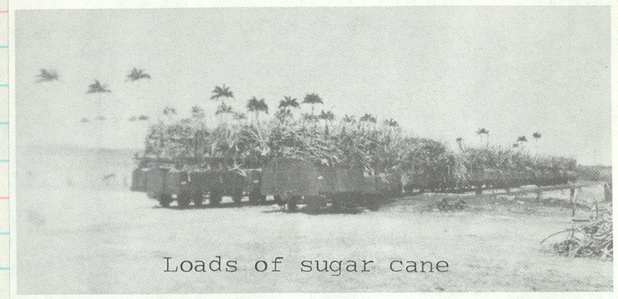
This photo had to be taken shortly after the change of gauge from 3'6" to 2'6" in 1898. Note some ties have been replaced while others are obviously the 'broad gauge' ties with one rail moved inward. Photo courtesy Barbados Museum Historical Society.

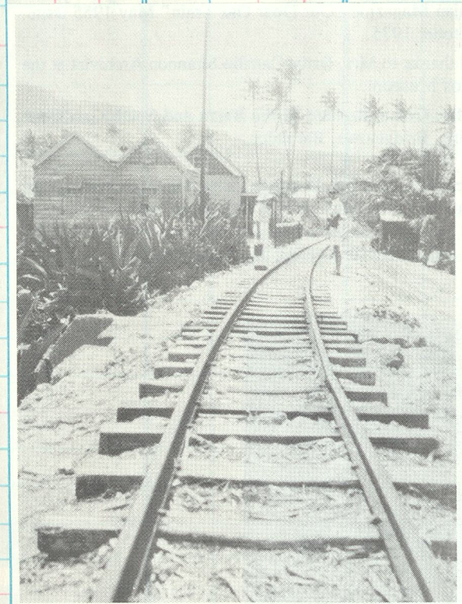


A straight section of line along the East (Atlantic) Coast, this portion of the railway was subject to vicious erosion throughout its life. Photo courtesy BMHS.

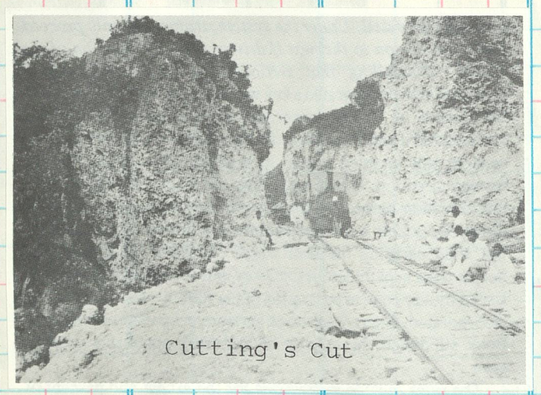


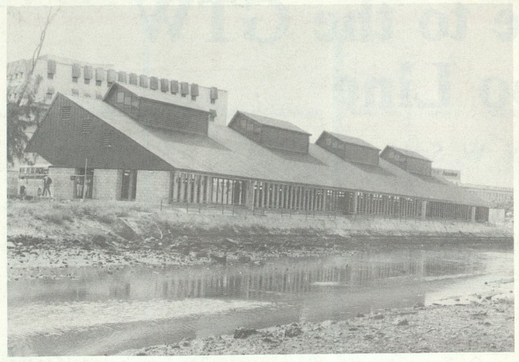
One of the Baldwin Built side tank locomotives hauling four cars and a brake van near Tent Bay in the Parish of St. Joseph circa 1920. Photo courtesy BMHS.

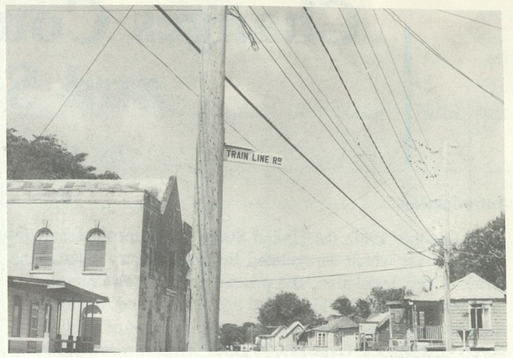


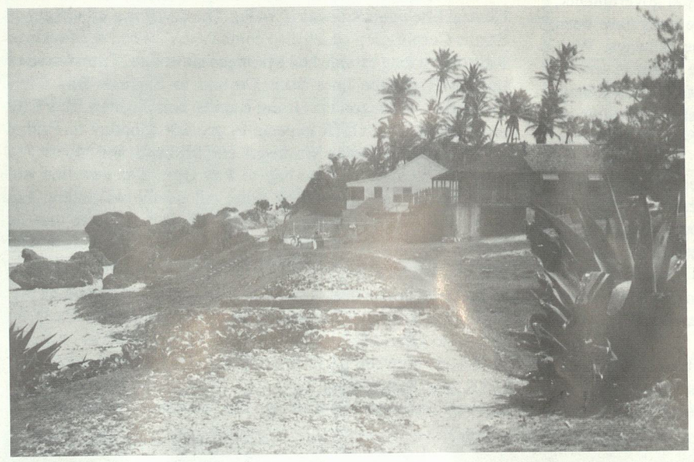


Close up of the right of way at Martin's Bay.

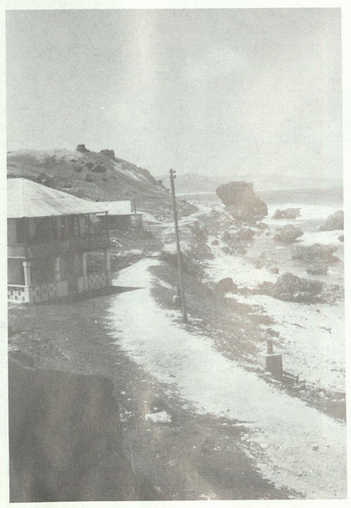


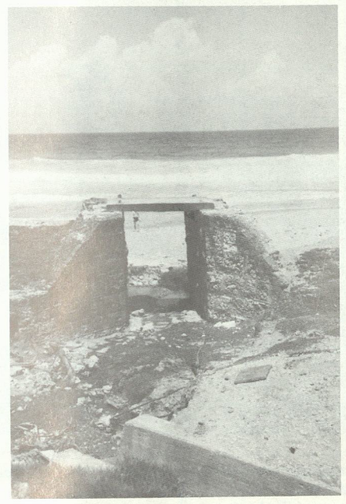






Traces from the past, all photos taken by the author in 1985. The original station site in Bridgetown is now the location of the then brand new Barbados Transport Board bus terminus. The street sign 'train line' indicates the street in Bridgetown laid down over the old right of way. Three views along the Atlantic Coast where the line is still clearly visible, finally the bell and builders plate from locomotive # 1 as displayed at the Barbados Museum.





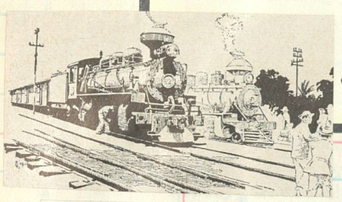
56

SELLER
DATE
FORM

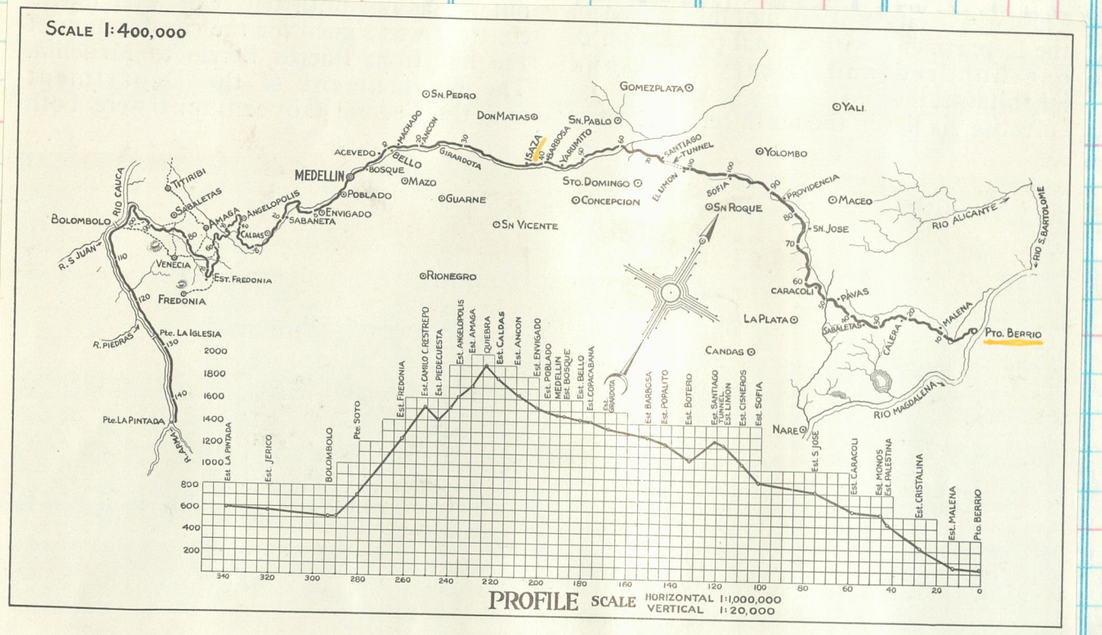
COLOMBIA

Area: 439,828 sq. mi.
Capital: Bogotá
Largest City: Bogotá
Population: 11,294,844
Monetary Unit: Colombian Peso
Form of Govt.: Republic

South American Steam

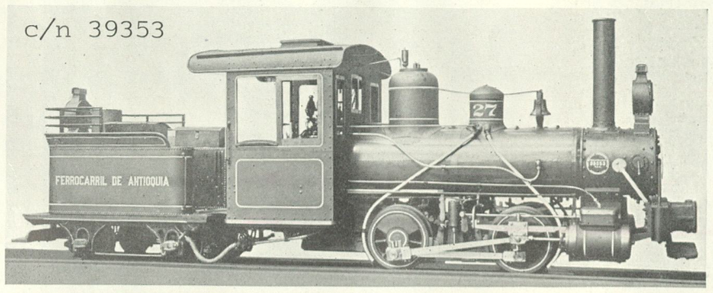


Panoramic View of Puerto Berrío Showing the Magdalena River and the Tracks of the Ferrocarril de Antioquia



Map and Profile of the Ferrocarril de Antioquia

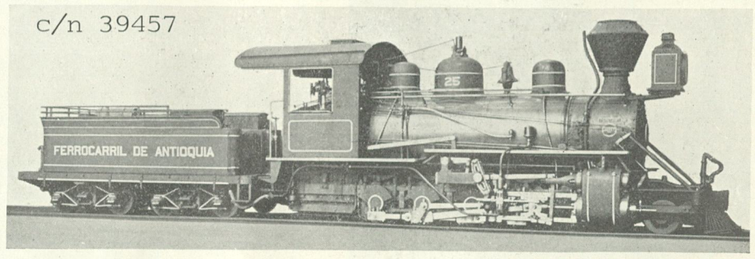
3' gauge



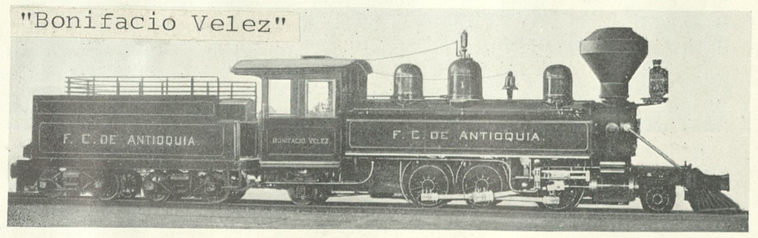
A Baldwin 0–4–0 Type Locomotive Built in 1912, Duplicate of One Supplied to the Ferrocarril de Antioquia in 1905

Cylinders	8″ x 12″
Drivers, diam.	28″
Steam pressure	160 lb.
Grate area	5.5 sq. ft.
Heating surface	191 sq. ft.
Weight, total engine	19,300 lb.
Tractive force	3730 lb.

Cylinders	15″ x 18″
Drivers, diam.	34″
Steam pressure	180 lb.
Grate area	15.2 sq. ft.
Water heating surface	871 sq. ft.
Superheating surface	178 sq. ft.
Weight on drivers	73,450 lb.
" total engine	82,300 lb.
Tractive force	18,300 lb.



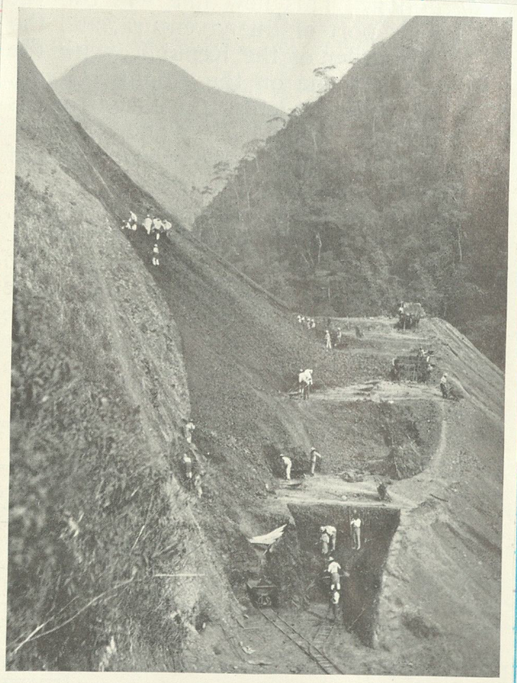
One of Four Baldwin Consolidation Type Locomotives Supplied to the Ferrocarril de Antioquia. Two were Built in 1902 and Two Duplicates, One of Which is Shown Above, were Completed in 1912



A Baldwin Prairie Type Locomotive Built in 1896

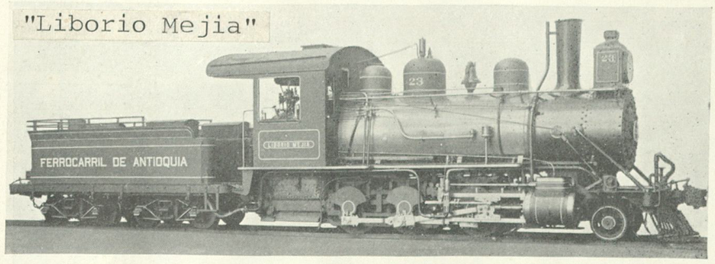
Cylinders	14″ x 18″
Drivers, diam.	38″
Steam pressure	180 lb.
Grate area	9.4 sq. ft.
Heating surface	679 sq. ft.
Weight on drivers	55,000 lb.
" total engine	69,000 lb.
Tractive force	14,200 lb.

c/n 15070



Construction Work Along the Lines of the Ferrocarril de Antioquia

Cylinders	15″ x 18″
Drivers, diam.	40″
Steam pressure	170 lb.
Grate area	17.3 sq. ft.
Heating surface	1099 sq. ft.
Weight on drivers	68,200 lb.
" total engine	77,500 lb.
Tractive force	14,600 lb.

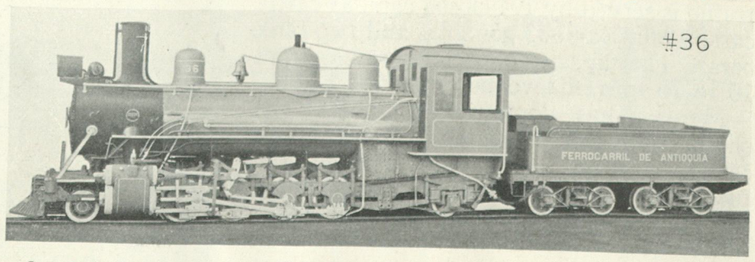


2 A Mogul Type Locomotive with Outside Frames, Two of Which were Built by The Baldwin Locomotive Works in the Year 1911

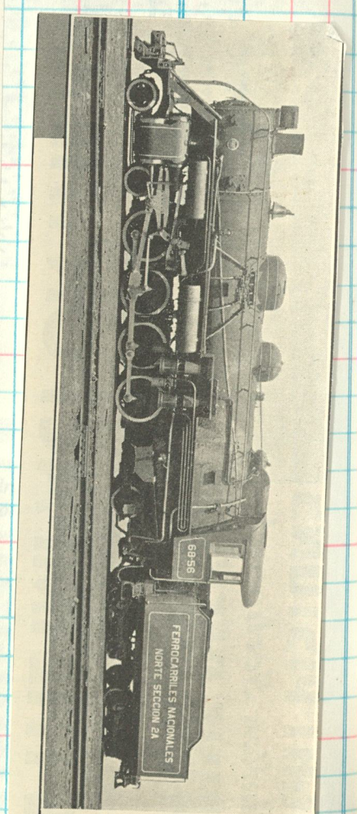
Antioquia Railway Station at Isaza, Midway Between Santiago and Medellín

Cylinders	15″ x 18″
Drivers, diam.	34″
Steam pressure	170 lb.
Grate area	28.5 sq. ft.
Water heating surface	865 sq. ft.
Superheating surface	185 sq. ft.
Weight on drivers	72,000 lb.
" total engine	96,300 lb.
Tractive force	17,250 lb.

c/n 52697



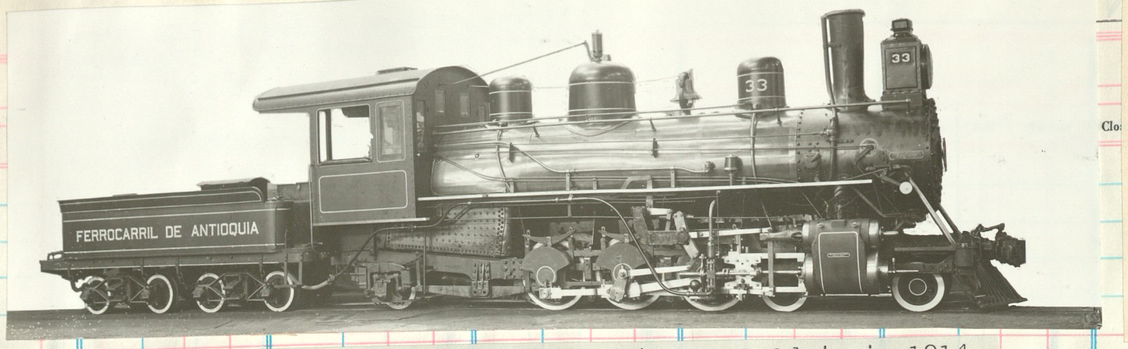
One of the First Two Mikado Type Locomotives Built for the Ferrocarril de Antioquia by The Baldwin Locomotive Works in 1919



2 LOCOMOTIVES FOR THE FERROCARRIL DEL NORTE COLOMBIA

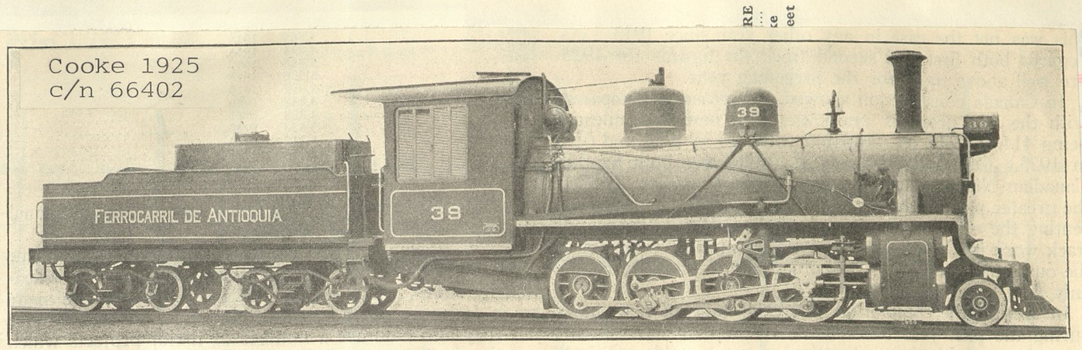
82293
2601

Clos. No. | Sold | Clo | Amount

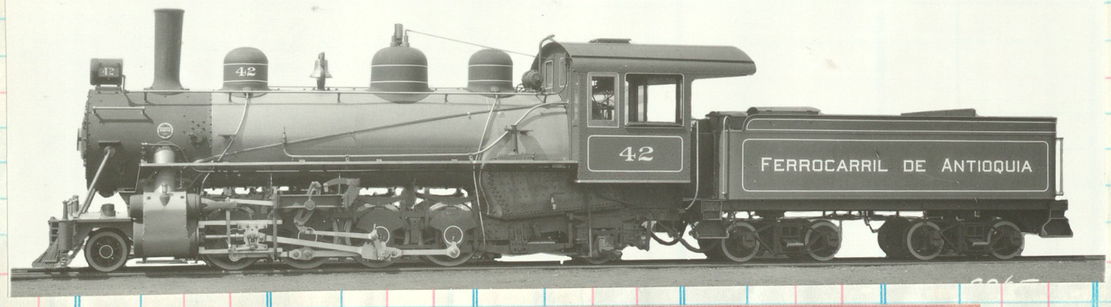


A stately Pacific for three foot gauge. Built by Baldwin in 1914
c/n 41677

Cooke 1925
c/n 66402

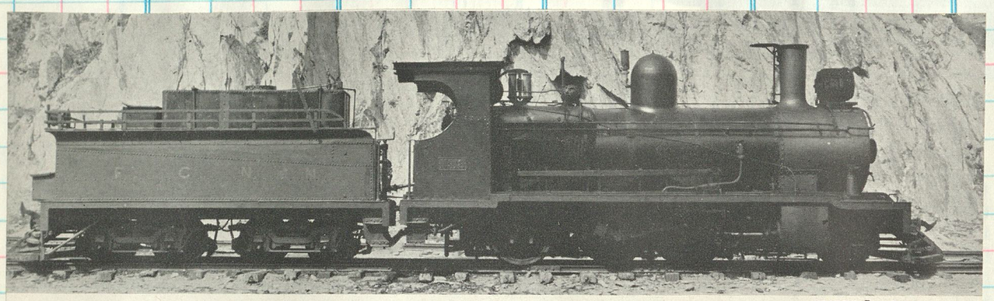


3-Ft. Gage Locomotive Built for Service in Columbia by the American Locomotive Company



A Mike delivered by Baldwin in 1927 c/n 59970

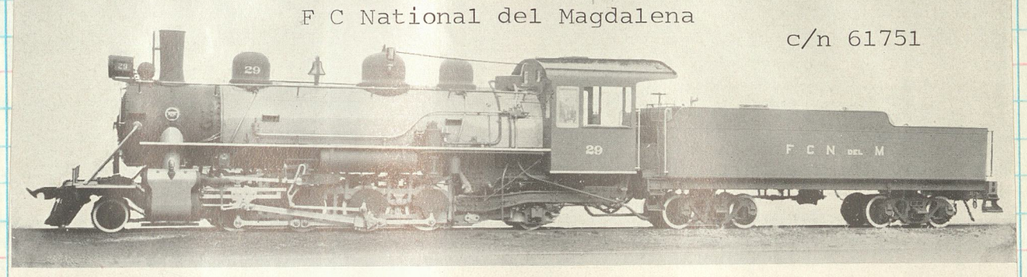
Six 4-8-0's [63-68] blt in 1927 by Baldwin c/n 60269



FCNdelM

Another 2-6-0 Type Locomotive Now Replaced by a Baldwin Mikado With Increased Capacity and Consequent Economy of Operation

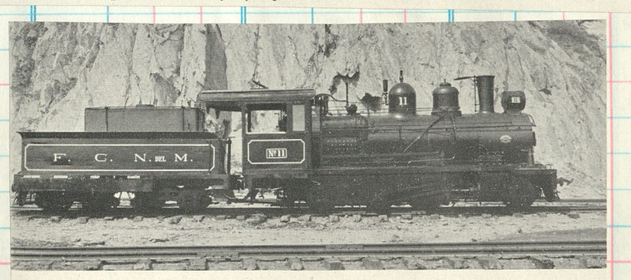
F C National del Magdalena
c/n 61751



One of the Two Mikado (2-8-2) Type Locomotives Built for the United Fruit Company by The Baldwin Locomotive Works in 1933

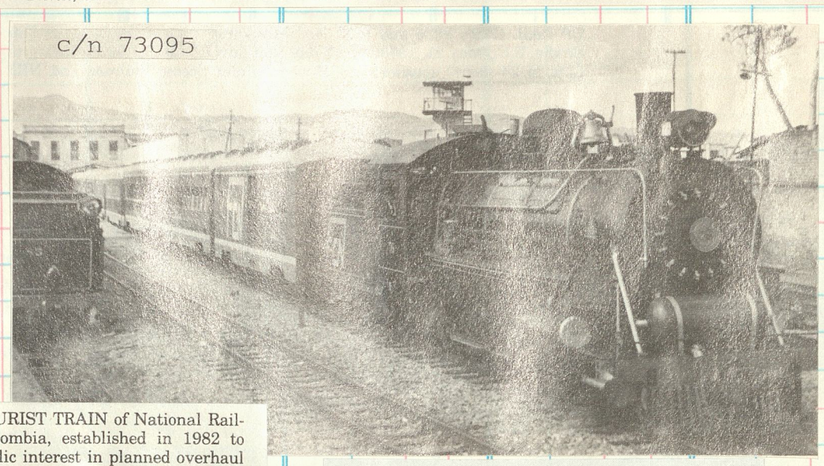
Track gauge	3′ 0″	Heating surface	1,432 sq. ft.	Weight on drivers	94,000 lb.
Cylinders	16″ x 20″	Superheating surface	364 sq. ft.	Weight, total engine	125,000 lb.
Steam pressure	190 lb.	Grate area	32 sq. ft.	Weight, total engine and tender	212,000 lb.
Drivers, diam.	36″	Fuel	Oil	Tractive force	22,900 lb.

The FCNdeC in 1968 still had 143 steam engines, 457 passenger, 5606 freight cars. Operated 2,122 miles of 3' gauge.



Locomotive of the 2-6-0 Type Used by the Santa Marta Railway Prior to the Introduction of the New Baldwin Mikados

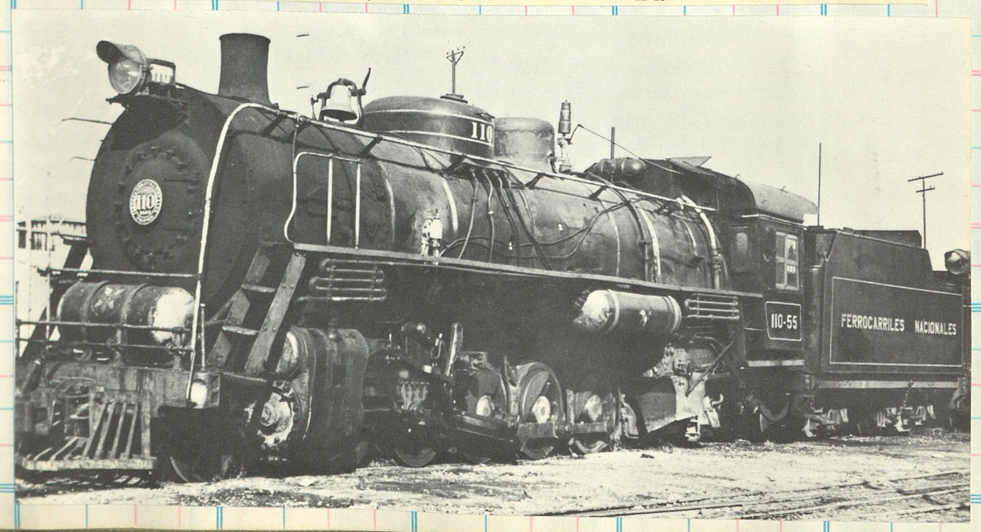
c/n 73095

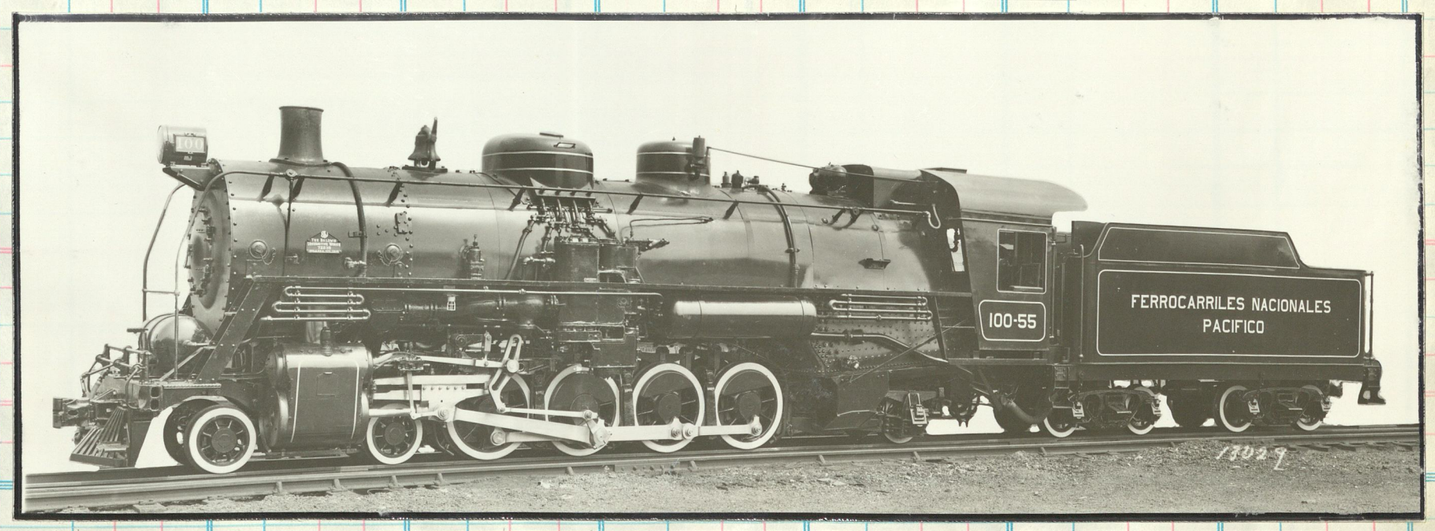


STEAM TOURIST TRAIN of National Railways of Colombia, established in 1982 to promote public interest in planned overhaul of system, departs Bogota for Nemocón, 41 miles, on January 8, 1983, behind glossy Baldwin (1947) outside-frame 4-8-0 No. 76.

Built as
F C de Ambalema Ibaque #10

#58 c/n 61834 Baldwin 1934





Narrow gauge did not necessarily restrict the design of the steam locomotive. This 4-8-2, constructed by Baldwin in 1945 c/n 72238, is an excellent example which proved that theory.

58

SELLER
DATE
FORM DES

VENEZUELA

Area: 352,141 sq. mi.
Capital: Caracas
Largest City: Caracas

Population: 5,176,000
Monetary Unit: Bolivar
Form of Govt.: Republic

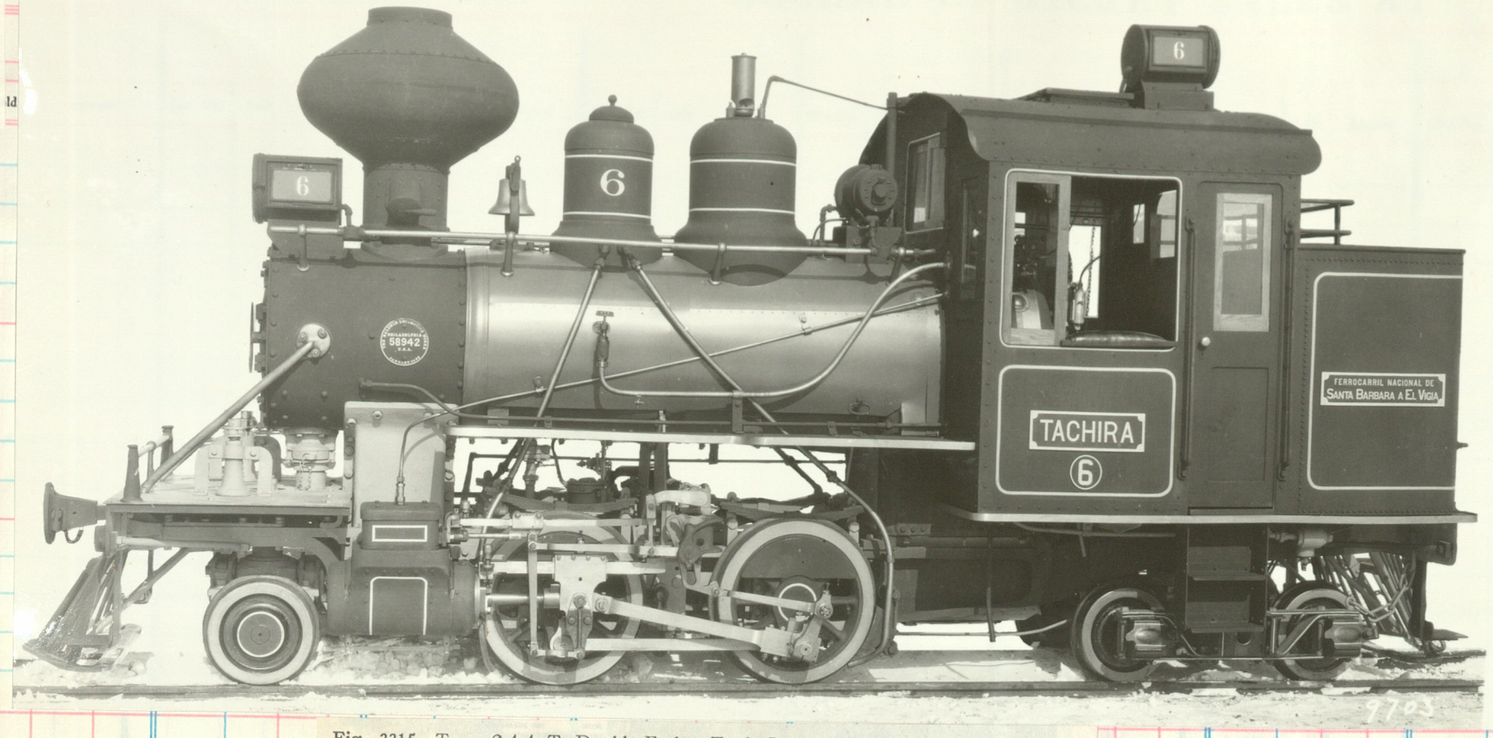
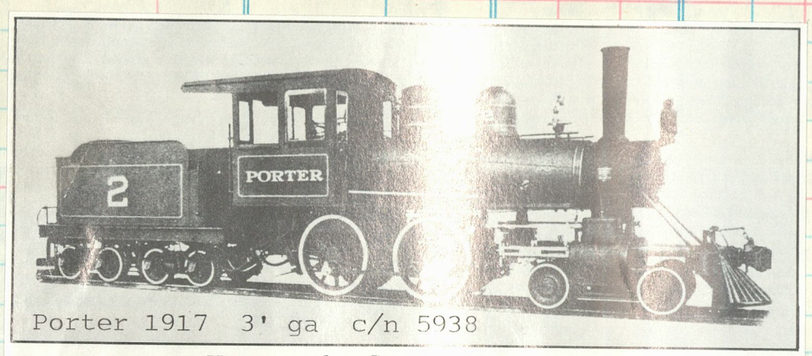


Fig. 3315—Type 2-4-4 T Double-Ender Tank Locomotive, Meter Gage, for Passenger and Freight Service. Built for F. C. Nacional De Santa Barbara a el Vigia, Venezuela, by The Baldwin Locomotive Works.

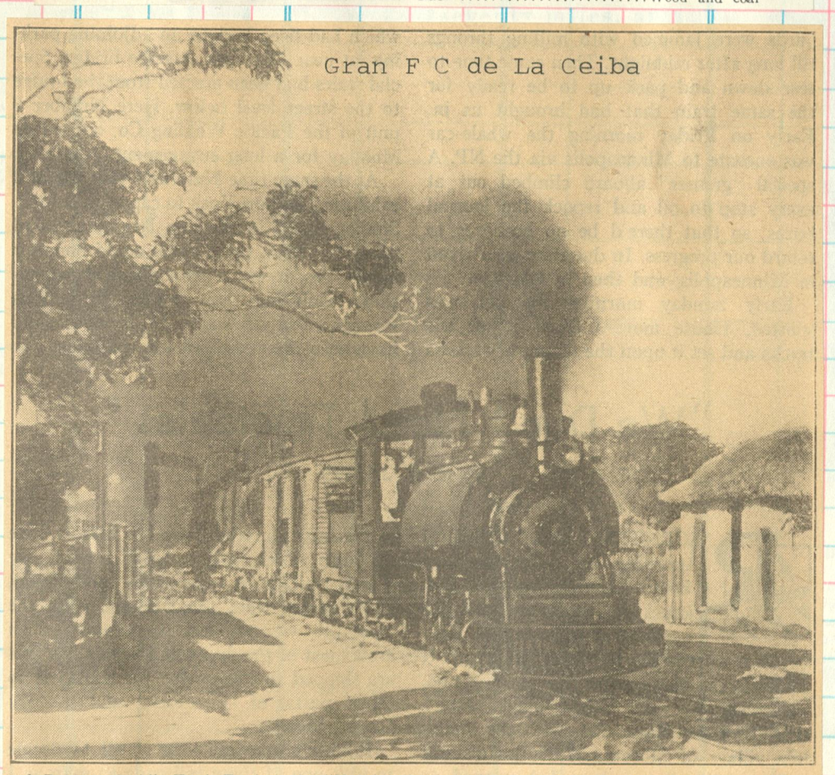
Gage	3 ft. 3⅜ in.	Wheel base, engine	18 ft. 6 in.
Cylinders	9 in. x 16 in.	Heating surface	280 sq. ft.
Steam pressure	180 lb.	Grate area	6.6 sq. ft.
Diam. of drivers	33 in.	Weight on drivers	27,200 lb.
Tractive force	6,000 lb.	Weight of engine	51,600 lb.
Wheel base, driving	4 ft.	Fuel	Wood and coal

Built 1926
c/n 58942



Porter 1917 3' ga c/n 5938

Venezuela Sugar Co.



A Baldwin Saddle-Tank Engine, the "Mototan," on the Narrow-Gage La Ceiba Railroad, Venezuela, Rolls Her Train into the Straw-Thatched Home Terminal at the End of Her Daily Run

Total

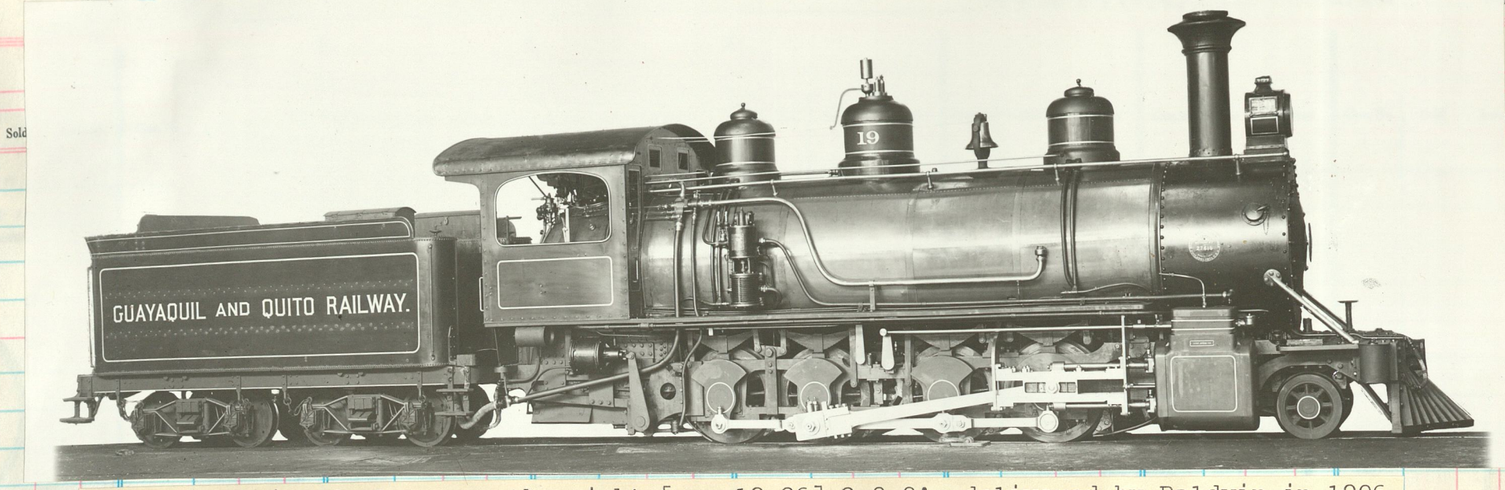
Total

Total

ECUADOR

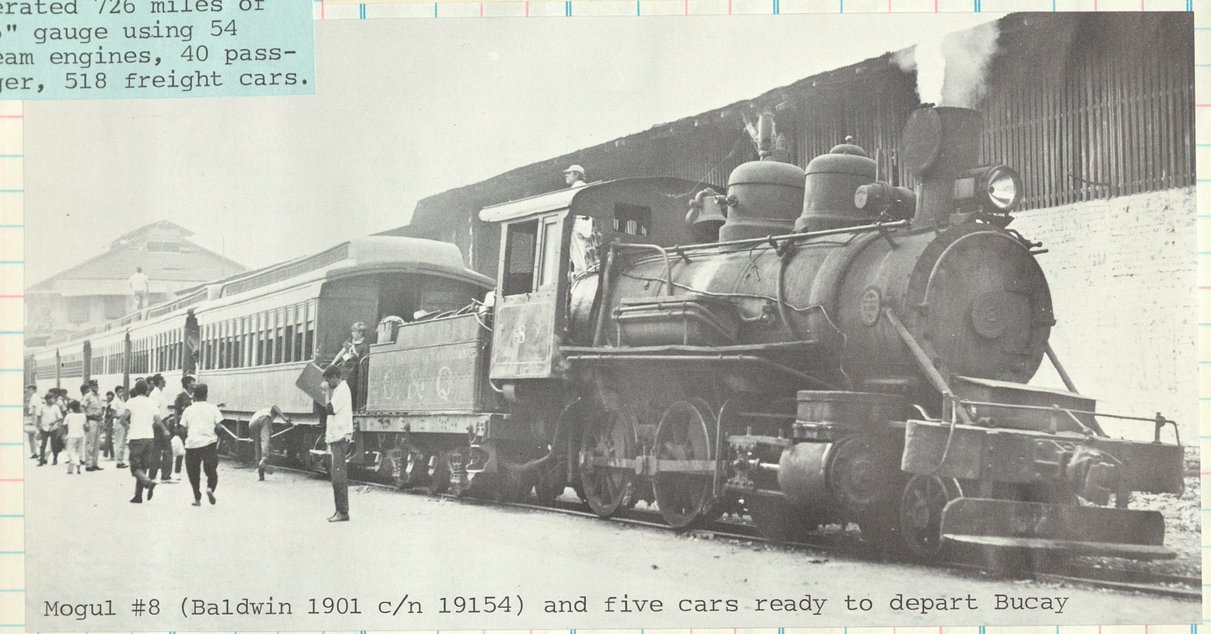
Area: 108,478 sq mi. Population: 3,076,933
Capital: Quito Monetary Unit: Sucré
Largest City: Guayaquil Form of Govt.: Republic

Guayaquil & Quito Railroad



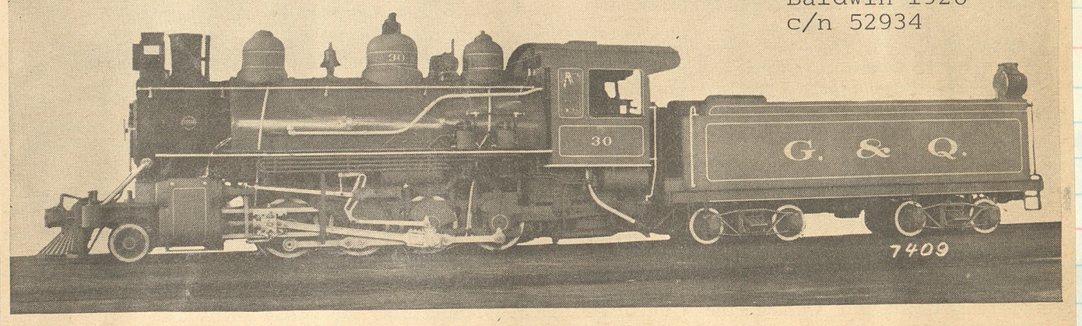
Due to restricted clearance the eight [nos 19-26] 2-8-0's delivered by Baldwin in 1906 were unique in having double 13.5x22 cylinders attached to the same crosshead in an over and under arrangement. They were not compounds, all cylinders were of the same dimension. #19 had c/n 27615.

In 1968 the EdeFCdelE operated 726 miles of 3'6" gauge using 54 steam engines, 40 passenger, 518 freight cars.



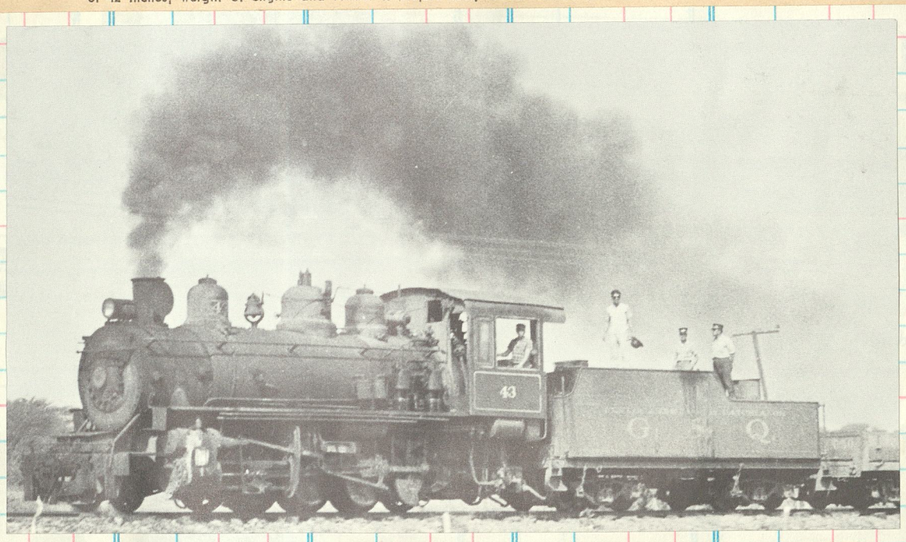
Mogul #8 (Baldwin 1901 c/n 19154) and five cars ready to depart Bucay

Baldwin 1920
c/n 52934



FREIGHT LOCOMOTIVE OF ECUADOR, SOUTH AMERICA

Built for the Guayaquil & Quito Railway by the Baldwin Locomotive Works, engine 30 has cylinders 19 by 22 inches, steam pressure of 200 lbs., driving wheels of 42 inches; weight of engine and tender is 258,200 lbs.; tender carries 12 tons of coal and 5,000 U. S. gallons of water.

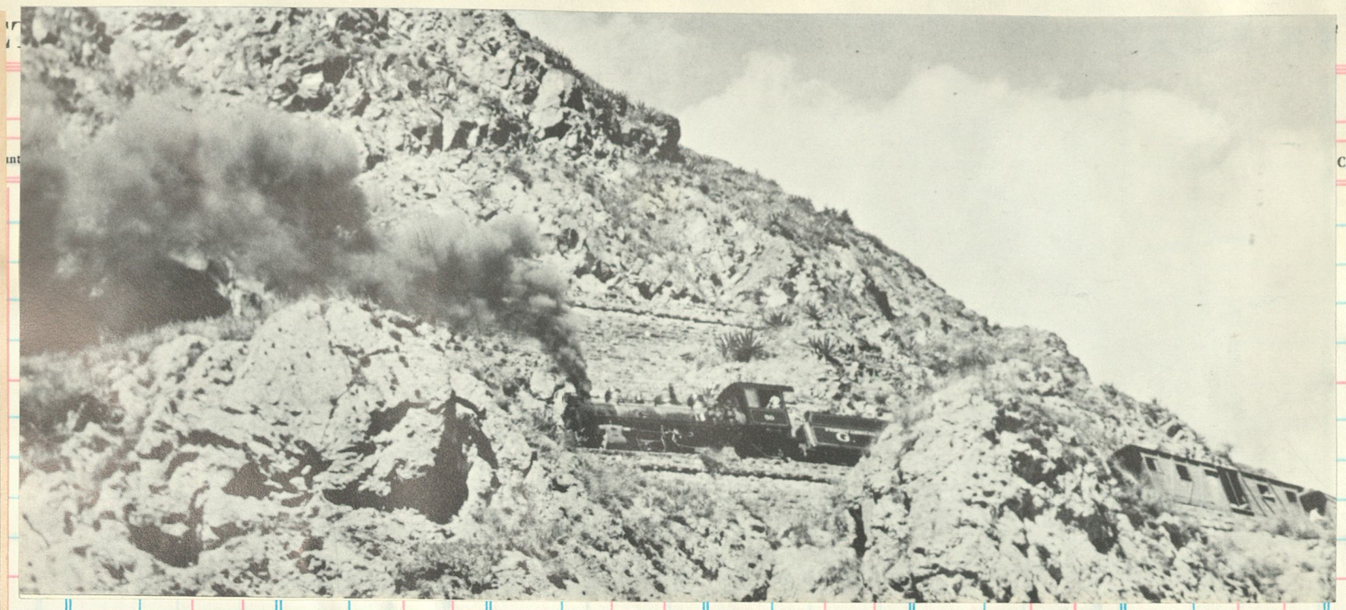


The crew enjoying the breeze as the 43, Baldwin 1944 c/n 70186, chuckles along near Duran.

In 1946 Baldwin delivered four 2-8-0's noed 48-51. #50 c/n 72697 is into clear with 1st section of the Riobamba train at Huigra.

52-58 (2-8-0) c/n 75586 B-L-H 1951

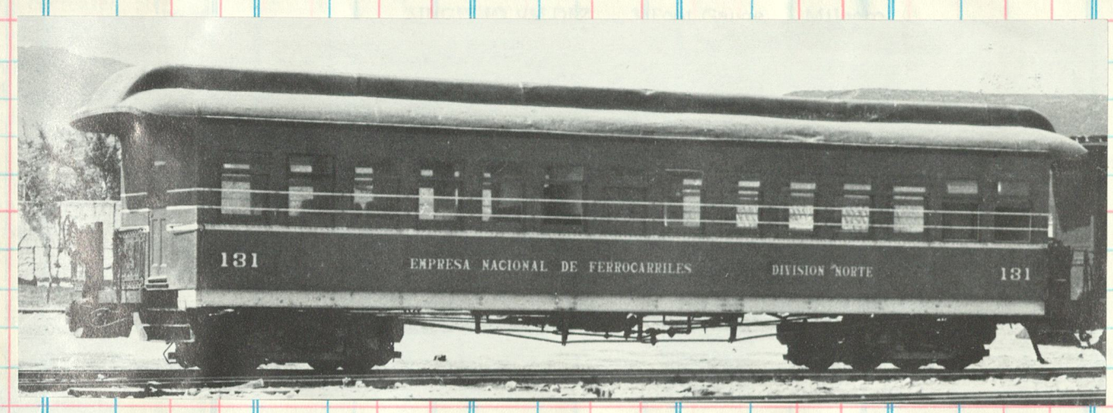
NARIZ DEL DIABLO—THE DEVIL'S NOSE
Solid rock obstruction in the path of Ecuadorian progress. The railway line zigzags over the bridge of the nose.

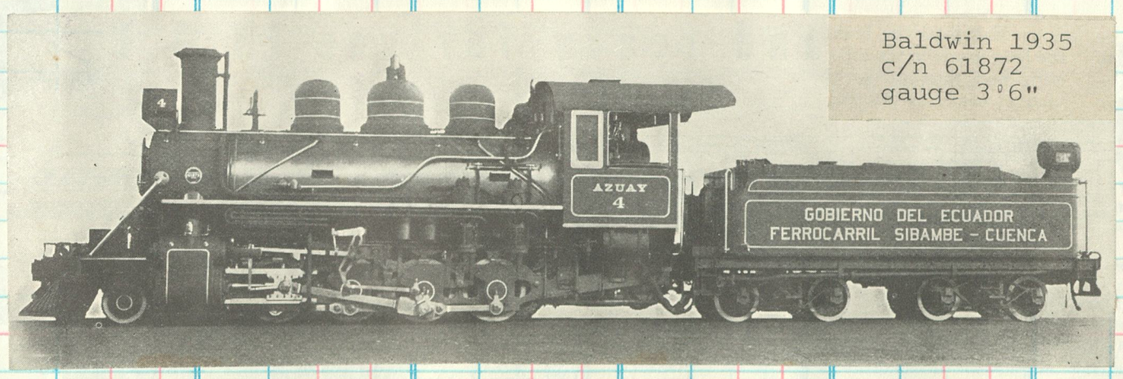


Eng 50 backs her train up a terrace on Nariz del Diablo

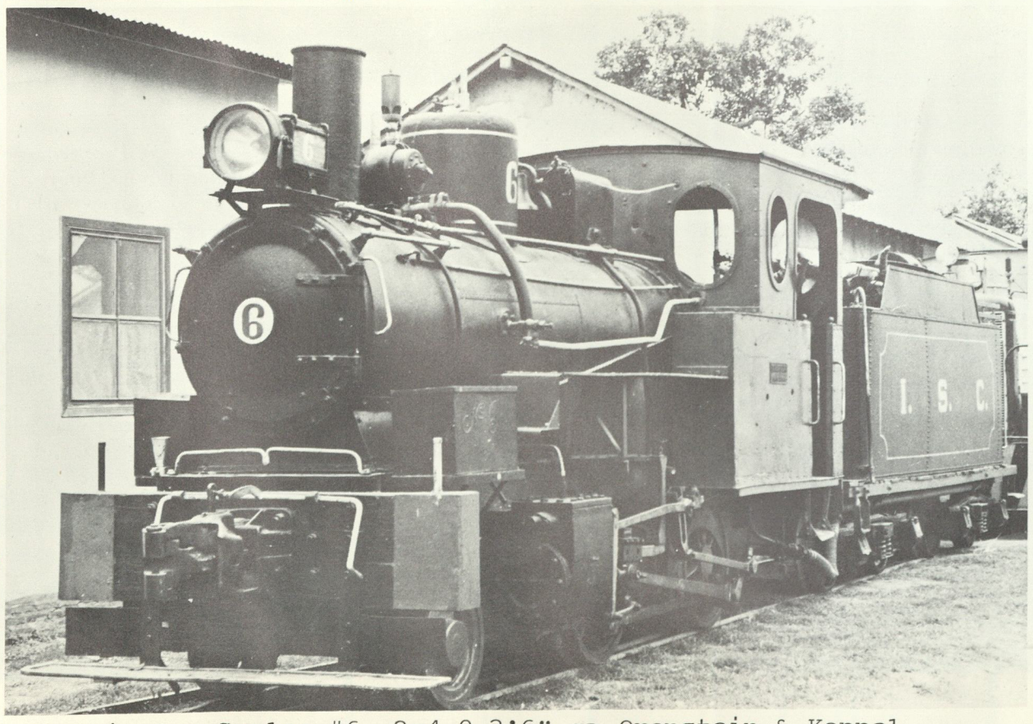
Clos. No.	Sold	Amount	Clos.No.	Sold	Amount

Typical cut through clay embankment on the Quito–San Lorenzo Railway in Ecuador.

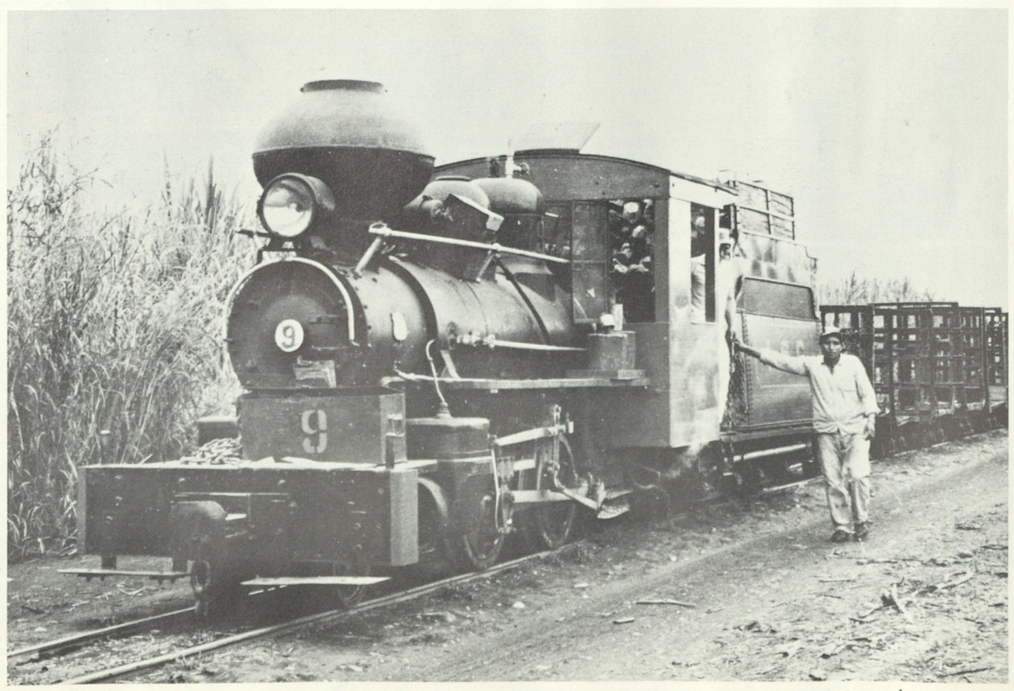




Baldwin 1935
c/n 61872
gauge 3'6"



Ingenio San Carlos #6 2-4-0 3'6" ga Orenstein & Koppel



Ingenio San Carlos #9 2-4-0 60cm Porter 1924 c/n 6892
Blt for the E. T. Brooks Co.

5-74 100 bks. (Eureka 29387)

PERU

Area: 514,059 sq. mi.
Capital: Lima
Largest City: Lima
Population: 8,714,000
Monetary Unit: Sol
Form of Govt.: Republic

Sold	Amount	Clos.No.	Sold	Amount

It took 61 bridges, 66 tunnels and 21 switchbacks — plus oxygen for the passengers — to put a railroad on the roof of Peru

Central Railway of Peru

Trains Climb 15,806 Feet

The Andes

the world's longest, uninterrupted mountain barrier, second only to the Himalayas in average height. The Andes—the *cordillera*, mighty chords—that extend 4,000 miles parallel to the Pacific coast of South America. It was in these stupendous mountains that the greatest skills of railway engineering were brought to bear.

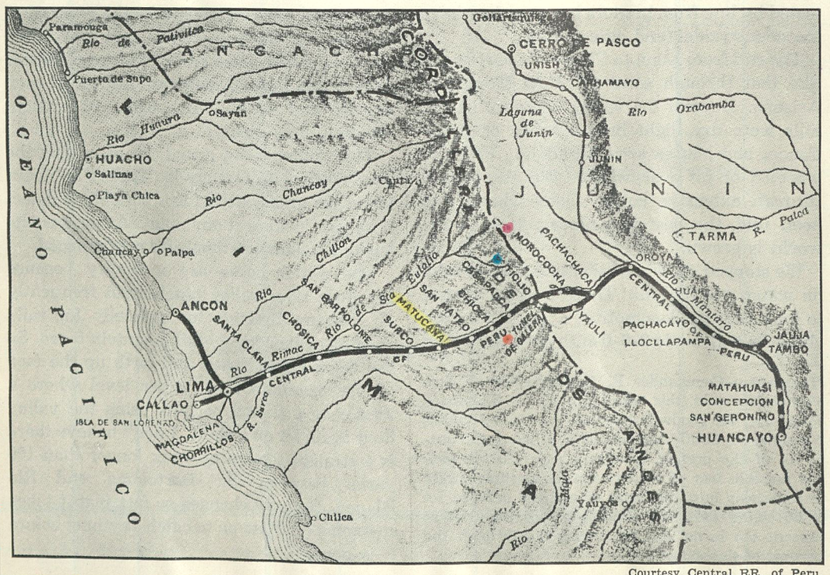
best train trips

The world's most exotic rail trip? Saltzman's vote is for a journey between Lima and Huancayo in Peru. At one point the train reaches a breathtaking altitude of 15,681 feet. So rarified is the air that a doctor aboard the train administers oxygen to passengers.

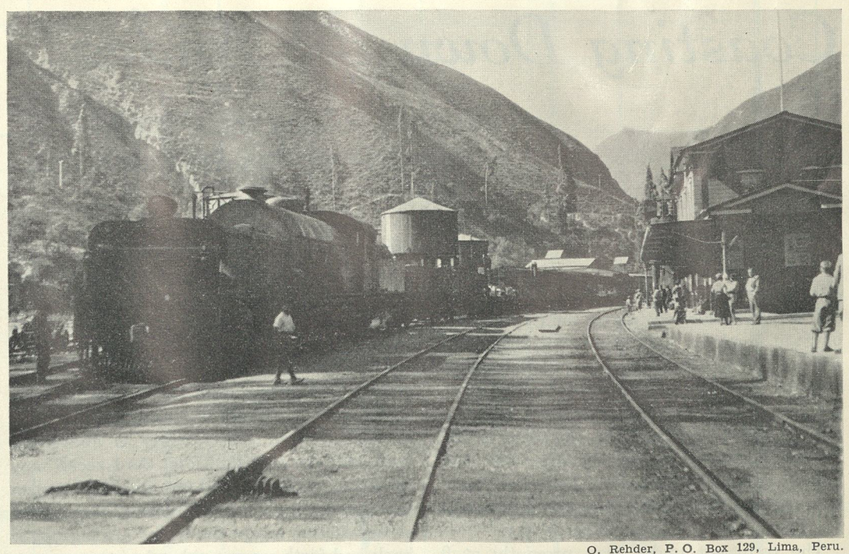
Garratt 2-8-2=2-8-2
Beyer Peacock 1930
c/n 6627
Noed 123, 401, 301

Andes Mountain Climber

Fogg



Courtesy Central RR. of Peru.



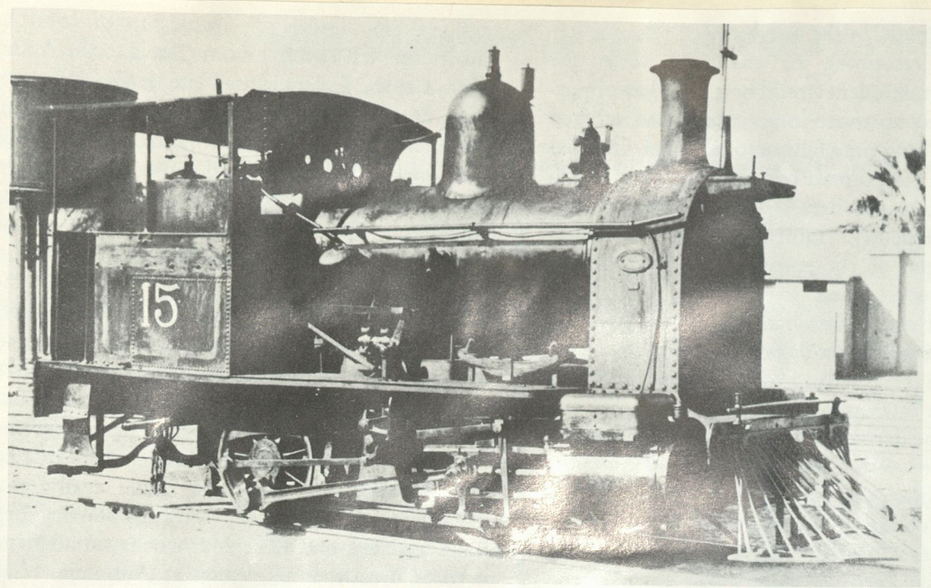
O. Rehder, P. O. Box 129, Lima, Peru.

A Garratt with a tonnage train at Matucana

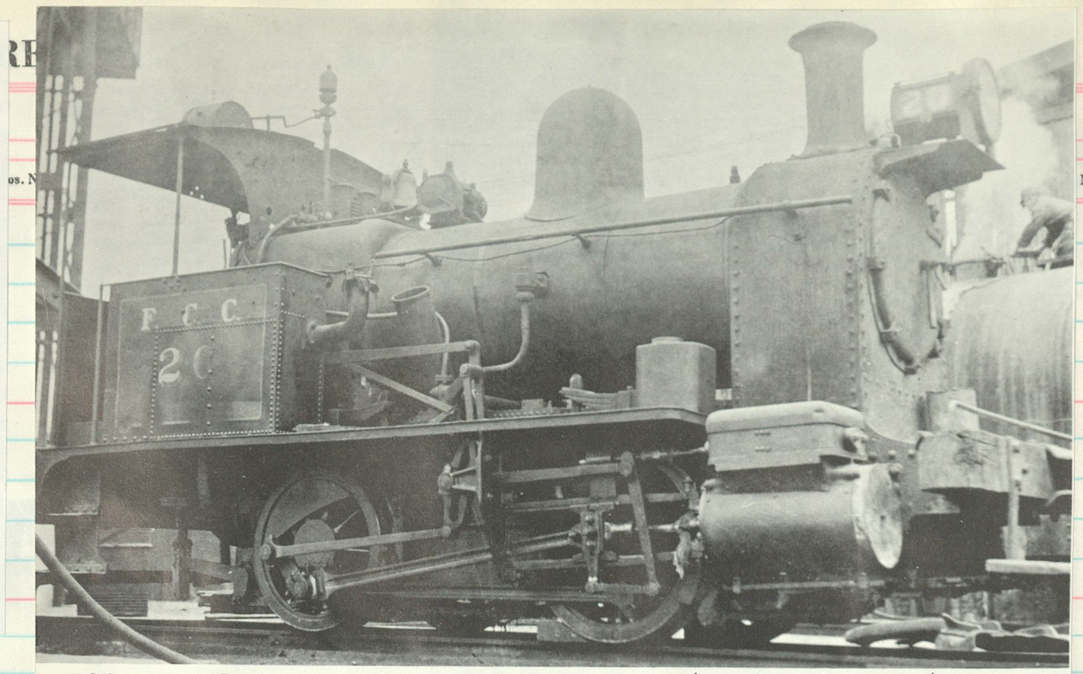
62

SELLER
DATE
FORM

os. No. | Sold | Amount | Clos.No. | Sold | Amount

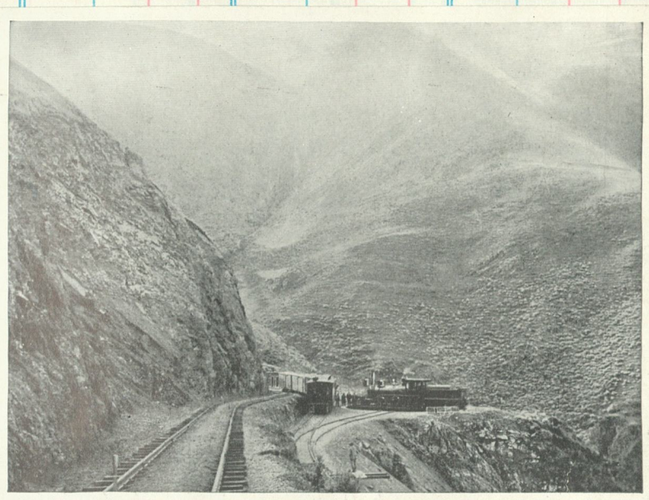


A Beyer Peacock steam engine on the Central Railway of Peru in 1913. *Courtesy:*

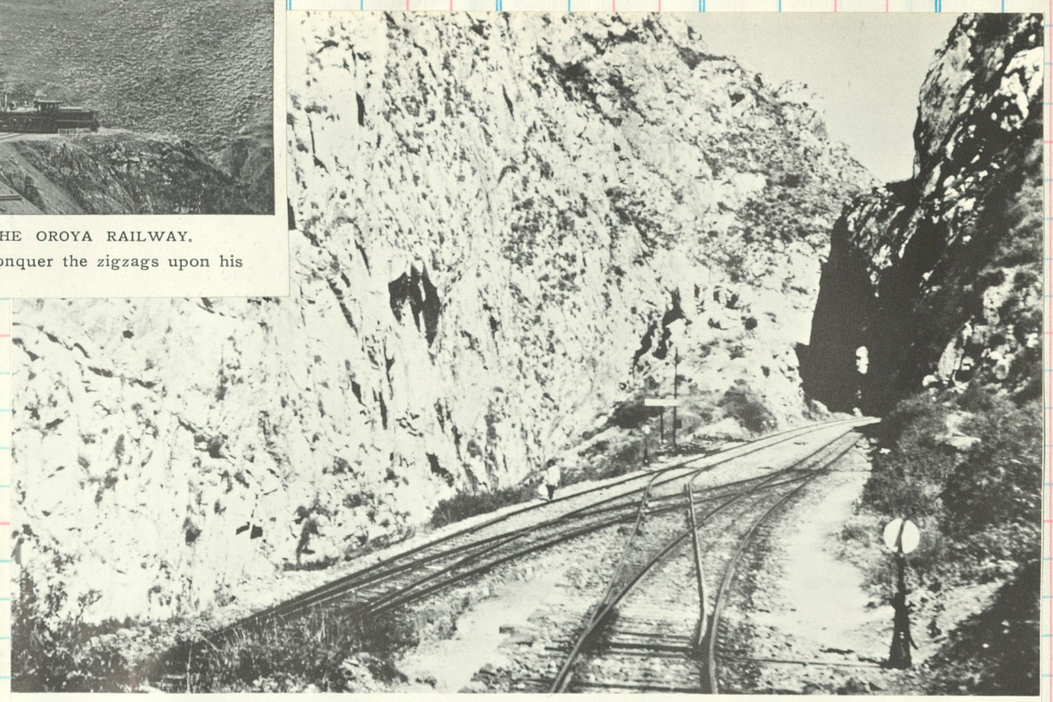


#20 worked the 'garden' at Callao for five decades. Built by Beyer Peacock in 1913.

THREE DIFFERENT LEVELS ON THE OROYA RAILWAY. FCC

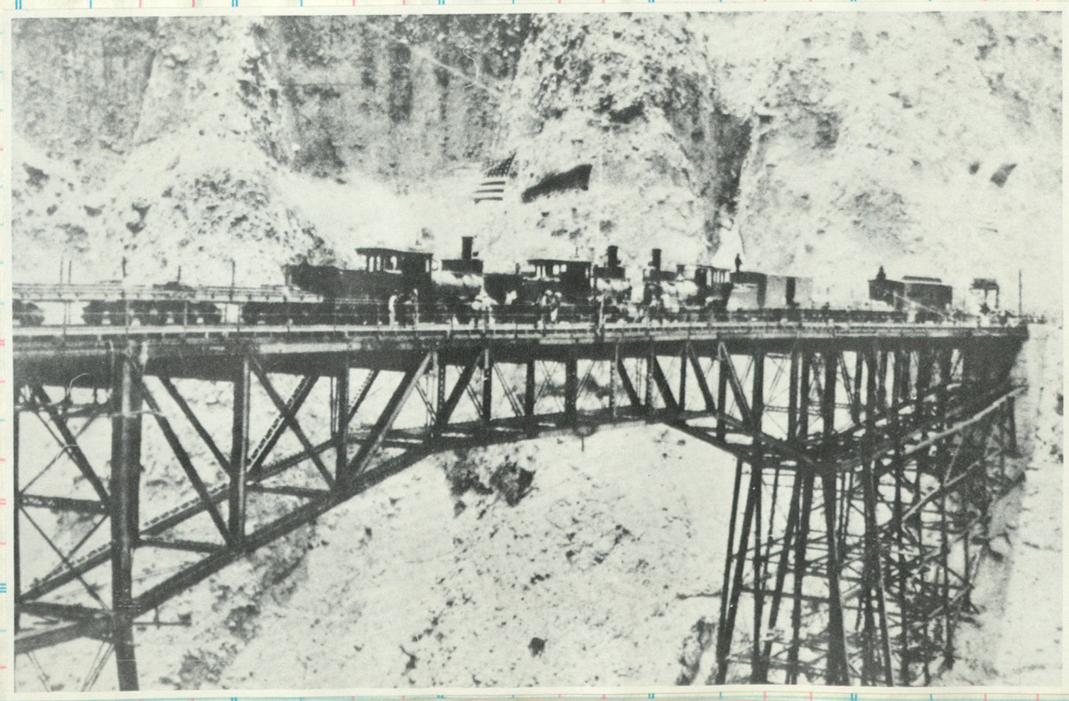


THE MEIGGS V-SWITCH ON THE OROYA RAILWAY.
This device enabled the engineer to conquer the zigzags upon his railway.



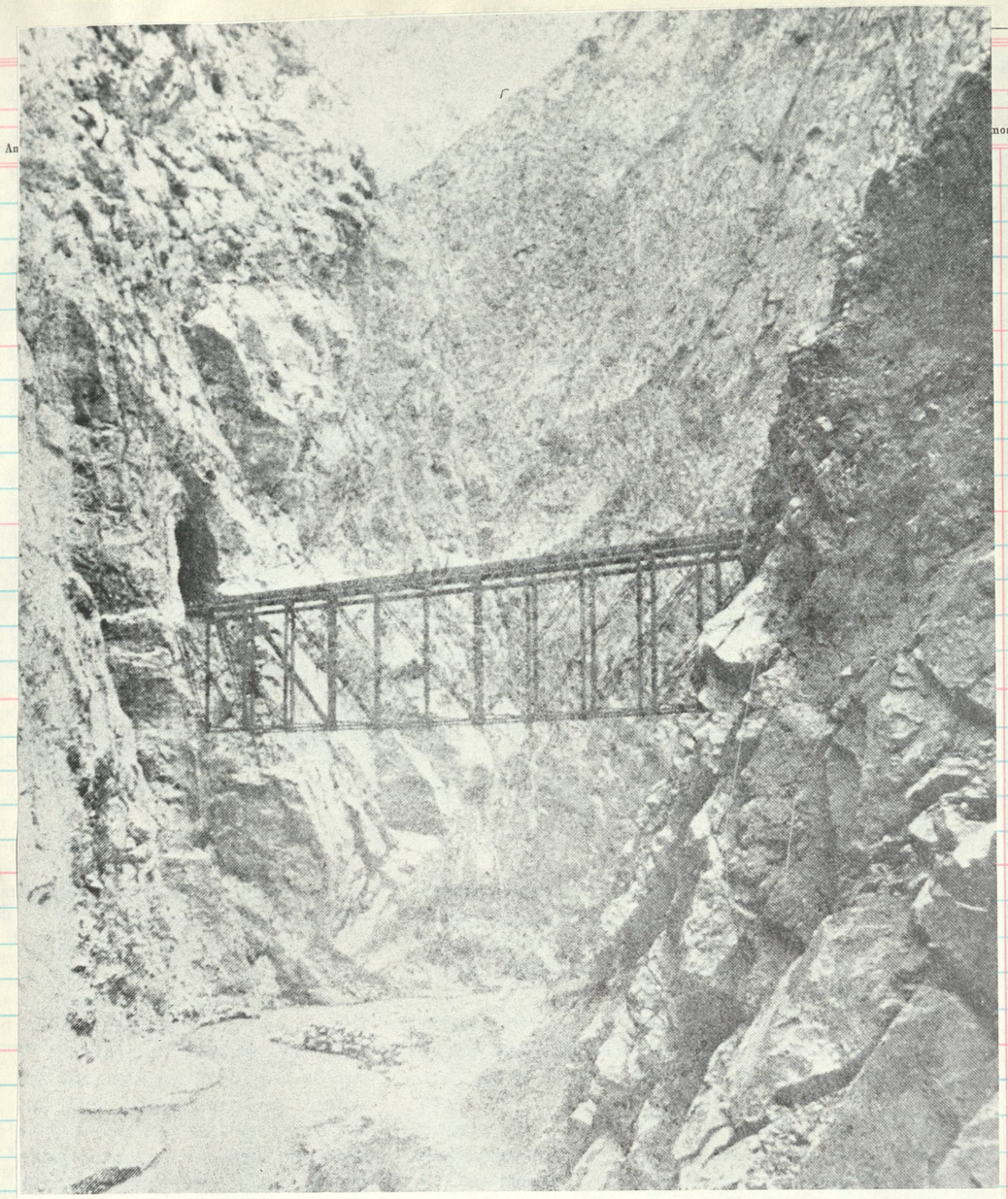
One of twenty one switchbacks on the Central of Peru

ROBUST SCENERY abounds in the Cordillera's western flank. A thousand feet below Anchi Bridge disappears into the side of the mountain.

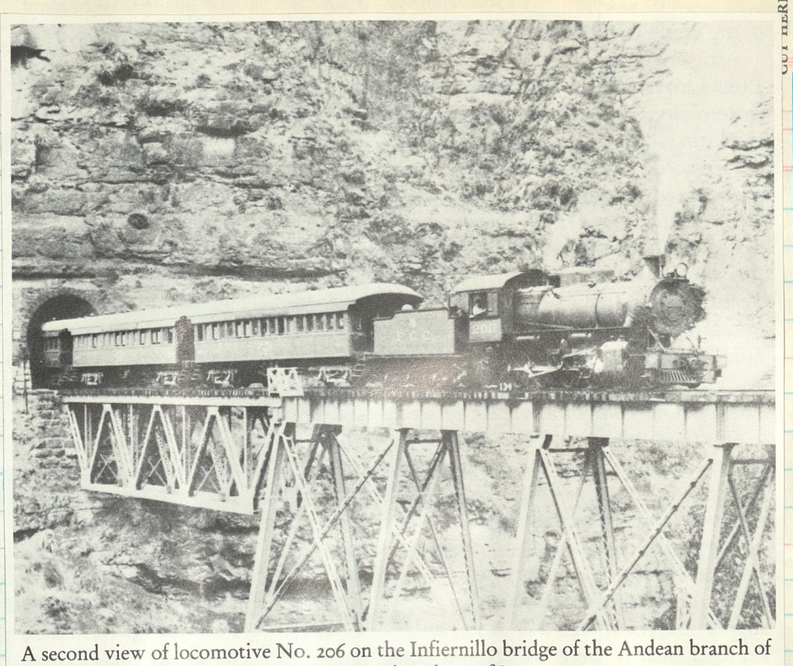


The second Verrugas bridge, blt by American Bridge co., opened Jan 1891

Clos. No. | Sold | Amount | Clos. No. | Sold | Amount



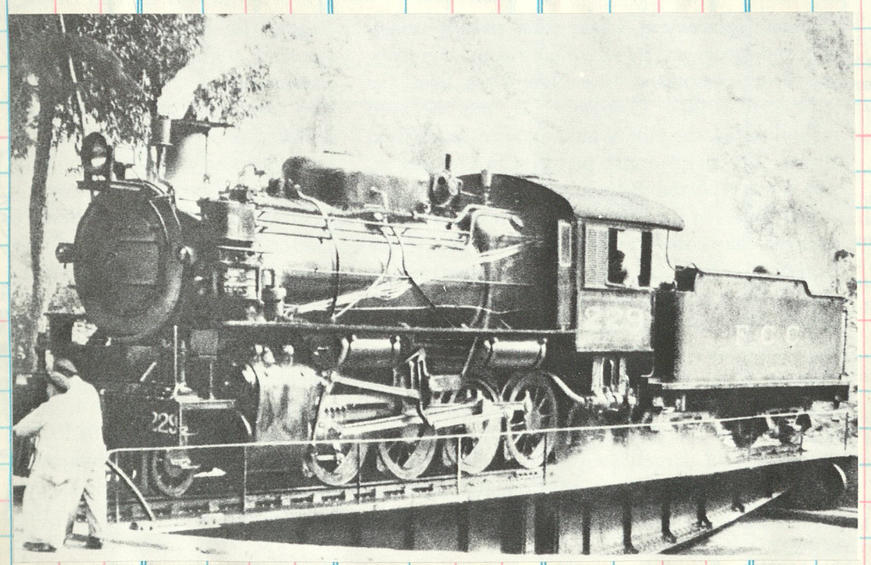
Original Infiernillo bridge on the Lima–Oroya Railway in Peru high in the Andes

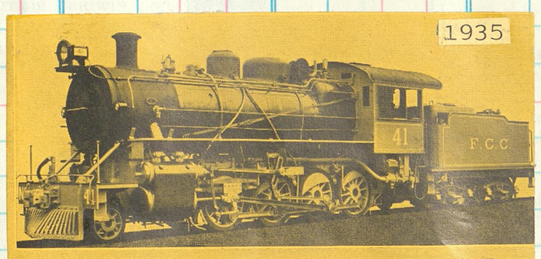


A second view of locomotive No. 206 on the Infiernillo bridge of the Andean branch of the Lima–Oroya Railway. *Courtesy: Central Railway of Peru.*

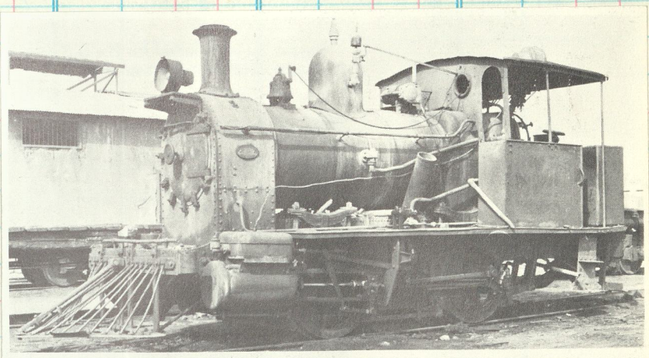
#206
B. P. 1937
c/n 6830

Quit[illegible]mbrero b[illegible]dge at mile 58 on the Lima–Oroya branch of the Central Railway c[illegible] *Courtesy: Central Railway of Peru.*

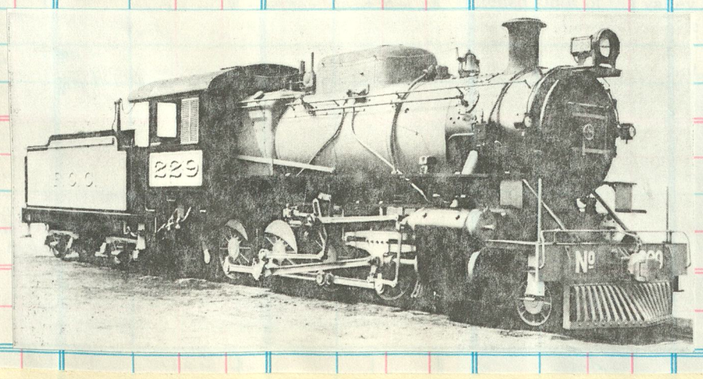




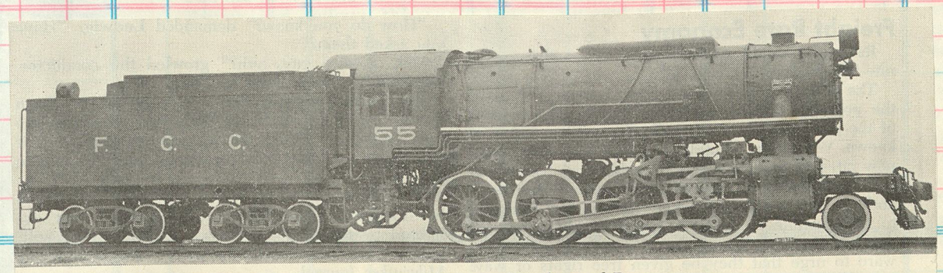
Six locomotives built for the Central Railway of Peru by Beyer Peacock & Co., Ltd., each fitted with two Nicholson Thermic Syphons.



Two Beyer Peacock 0-4-0WTs work the port FCC of Pacasmayo.



#229 was in the last group of these sturdy mountain climbers built by Beyer Peacock in 1953.



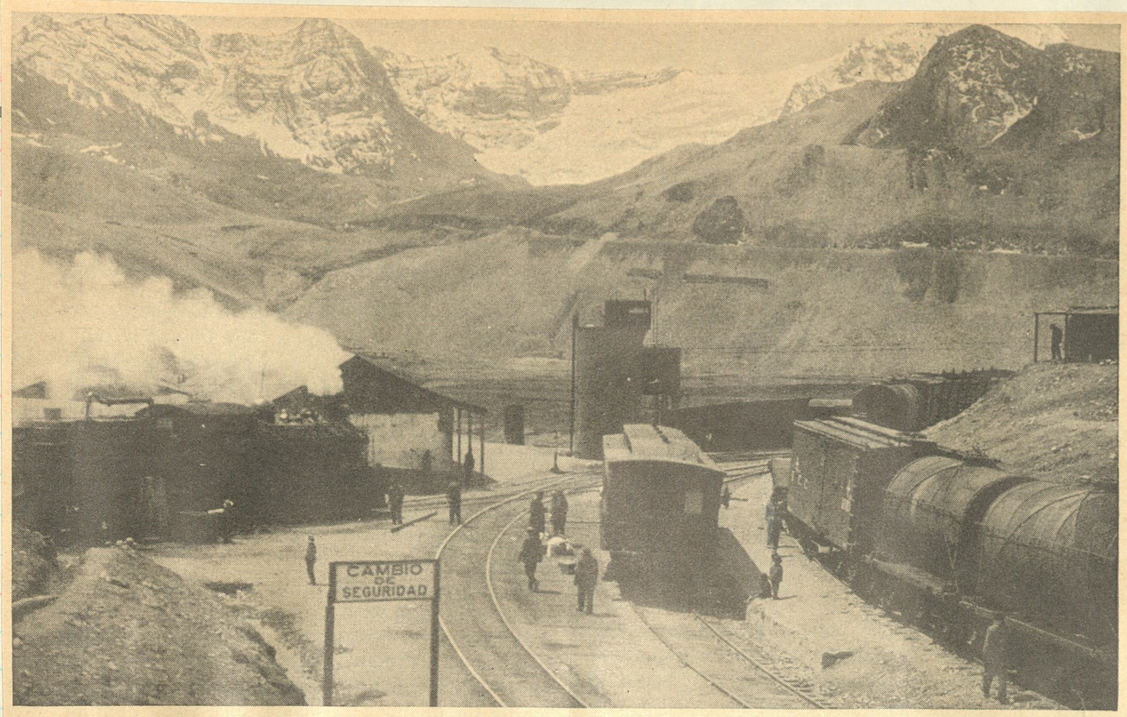
Standard Consolidation for Central Railway of Peru.

55-56 [renoed 80-81] c/n 71331 Schenectady 1943

64

SELLE
DATE
FORM

os.No. | Sold | Amount



BROAD VIEW OF TICLIO STATION, CENTRAL RAILWAY OF PERU
In the background is seen the western end of Anticona Glacier and the branch line to Morococha.

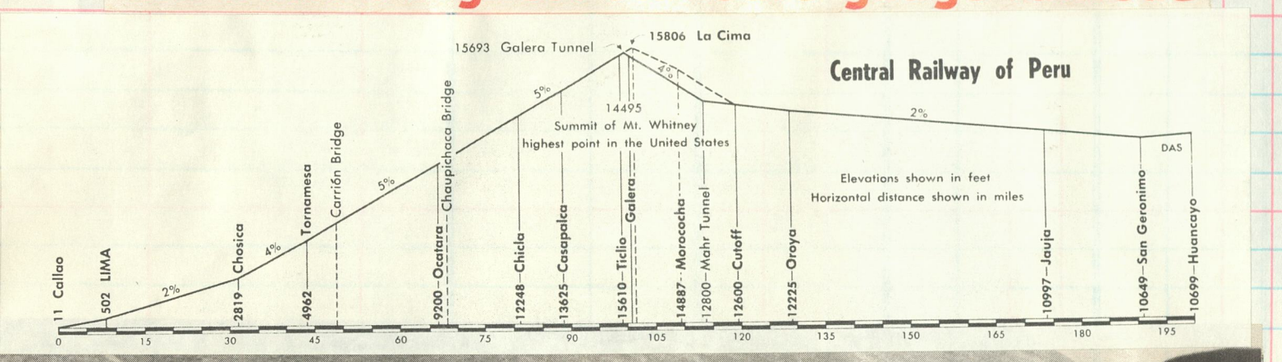
Peruvian Information Bureau

PASSENGER TRAIN, CENTRAL RAILWAY OF PERU, COMING OUT OF GALERA TUNNEL
At Ticlio Station, 15,610 feet above sea level, photograph was taken. Train is headed for Lima. Tunnel passes under Mount Meiggs, shown at left.

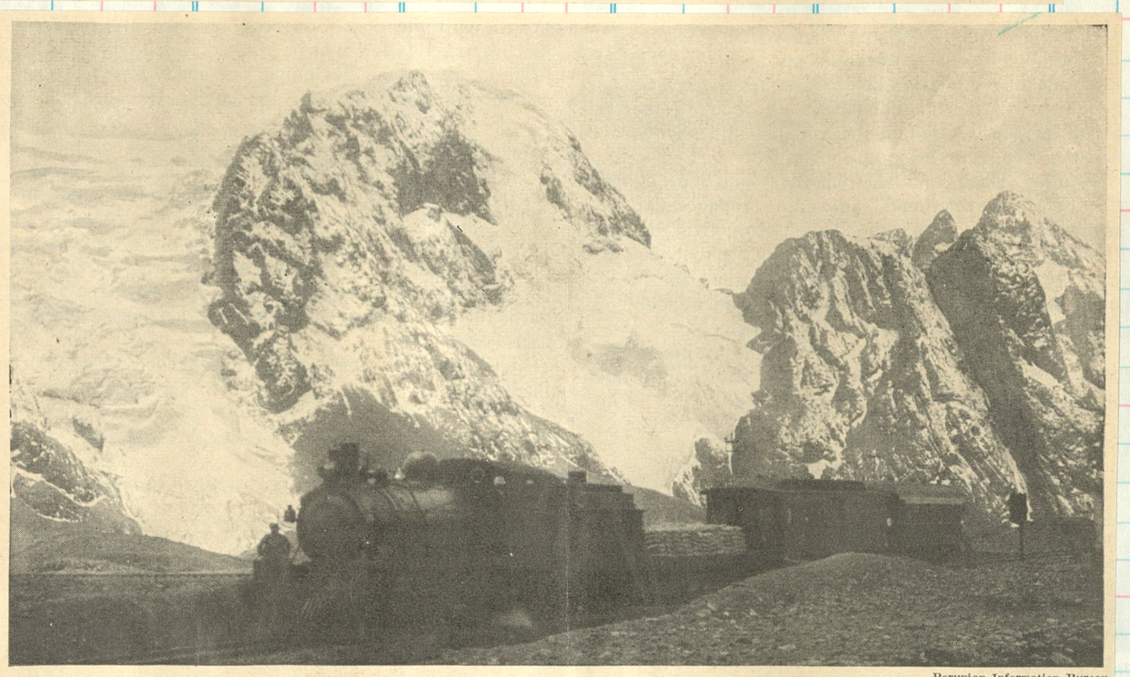
Peruvian Information Bureau

TICLIO is the highest junction in the world at 15,610 feet above sea level. From here a branch line crosses over to the mining center of Morococha that climbs to 15,806 feet, the highest point reached by any standard gauge railroad in the world. The apex on the main line is at the center of the Galera Tunnel at 15,693 feet.

the world's highest standard-gauge railroad



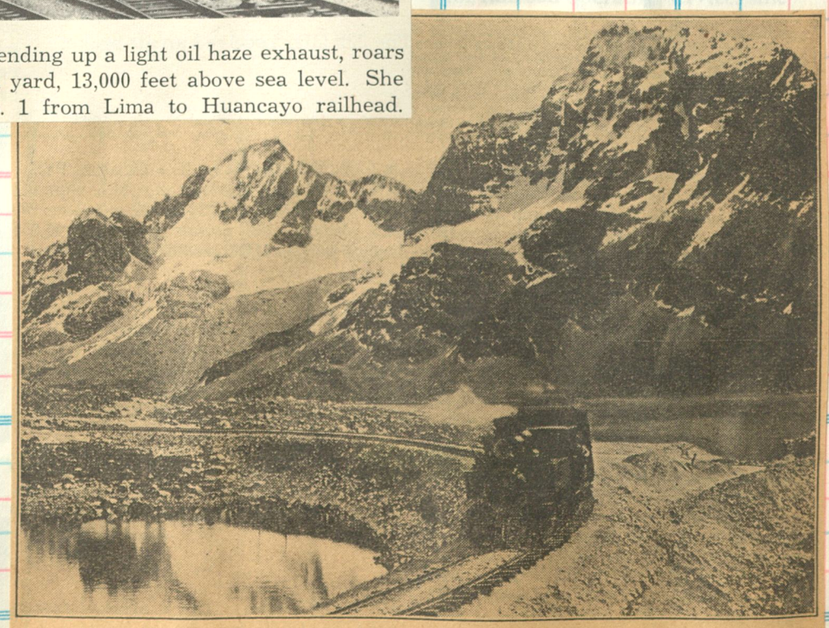
The switchback at TINGO with 4% grades both up and down.



LA CIMA (THE SUMMIT), CENTRAL RAILWAY OF PERU, SAID TO BE HIGHEST RAILWAY STATION IN WORLD
At this point railway tracks are 15,806 feet above sea level. In center of picture, rising above the locomotive, is Huacracocha Glacier.

Peruvian Information Bureau

A REBOILERED Rogers 2-8-0, sending up a light oil haze exhaust, roars up the 5 per cent into Casapalca yard, 13,000 feet above sea level. She is heading the four cars of No. 1 from Lima to Huancayo railhead.



On the Peruvian Central, 13,000 Feet Above Sea Level

CALLAO - LA OROYA RAILWAY — FCC

Standard gauge

LOCATION	DISTANCE MILES	ACCUMULATED MILES		ALTITUDE FEET
Callao	00.00	00.00		Sea level
Callao-Lima	8.69	8.69	Lima	492.12
Lima-Santa Clara	9.95	18.64	S. Clara	1322.16
Santa Clara-Chosica	14.91	33.55	Chosica	2820.86
Chosica-San Bartolome	13.67	47.22	S. Bartolome	4964.83
S. Bartolome-Matucana	16.78	64.00	Matucana	7840.12
Matucana-Tamboraque	10.56	74.56	Tamboraque	9870.94
Tamboraque-San Mateo	3.73	78.29	San Mateo	10550.72
San Mateo-Rio Blanco	5.59	83.88	Rio Blanco	11501.50
Rio Blanco-Chicla	3.73	87.61	Chicla	12250,18
Chicla-Casapalca	8.08	95.69	Casapalca	13628.44
Casapalca-Chinchan	4.35	100.04	Chinchan	14304.29
Chinchan-Ticlio	6.21	106.25	Ticlio	15610.04
Ticlio-Galera	1.24	107.49	Galera	15685.50
Galera-Yauli	13.05	120.54	Yauli	13587.82
Yauli-Manr.Tunnel	3.11	123.65	M. Tunnel	13263.29
M. Tunnel-Cutoff	4.35	128.00	Cutoff	12972.08
Cutoff-La Oroya**	9.94	137.94	La Oroya	12224.69

** Conn with Cerro de Pasco

Callao-La Oroya Railway in Peru. Locations, distances, altitudes. *E. A. Haine.*

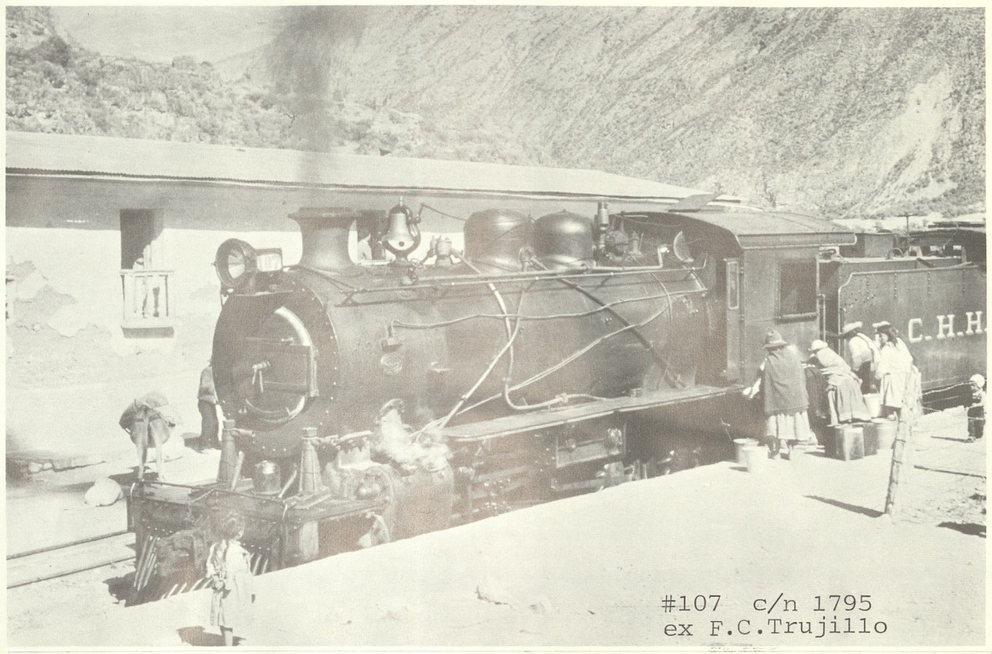
LA OROYA - HUANCAYO RAILWAY

Standard gauge

LOCATION	DISTANCE MILES	ACCUMULATED MILES		ALTITUDE FEET
La Oroya	00.00	00.00	La Oroya	12224.69
La Oroya-Huari	13.05	13.05	Huari	11834.01
Huari-Pachacayo	12.43	25.48	Pachacayo	11576.33
Pachacayo-Locllapampa	7.47	32.95	Locllapampa	11367.32
Locllapampa-Jauja	16.14	49.09	Jauja	11656.03
Jauja-Matahuasi	12.42	61.51	Matahuasi	10713.16
Matahuasi-Concepcion	2.49	64.00	Concepcion	10668.14
Concepcion-San Jeronimo	3.73	67.73	San Geronimo	10646.20
S. Jeronimo-Huancayo *	9.32	77.05	Huancayo	10699.34

* Conn with FCHH

EAH



#107 c/n 1795
ex F.C.Trujillo

A glistening Hunslet 2-8-0 (1937) on the 3 foot Huancayo-Huancavelica pauses in the Andes while the local Indians replenish their water supply

Huancayo to Huancavelica Railway F. C. H. H.

Three foot gauge

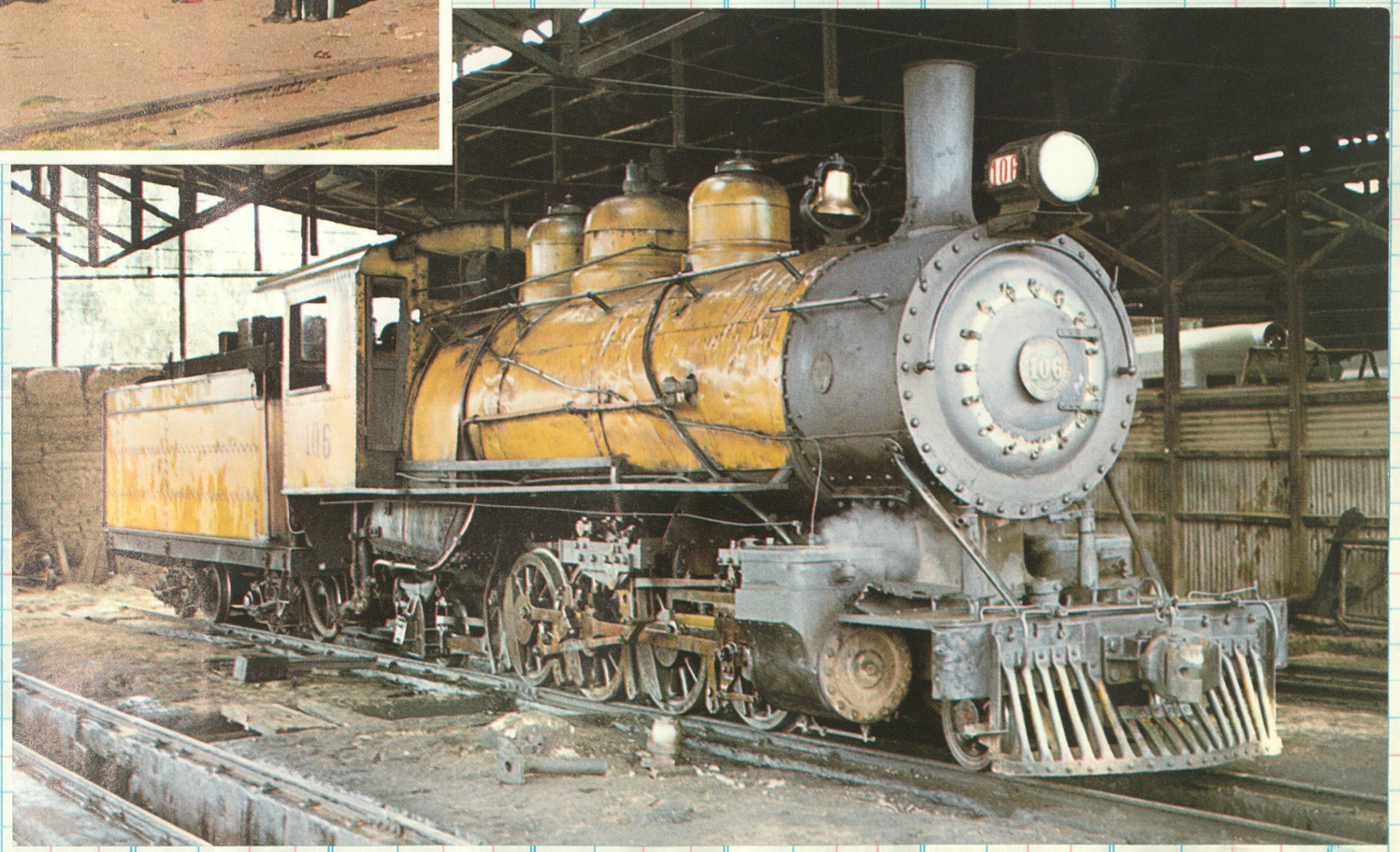
FCHH 80 miles completed June 1926

FCHH #104, a 2-8-2 blt by Henschel 1951 (c/n 26483) departs Ingahuasi with a passenger consist deep in Rio Mantaro valley.

The 108, another former F C Trujillo 2-8-0 with her train at Huancavelica. Blt by Hunslet 1947 c/n 3413.

RECORD OF TICKET SALES AT

Amount	Clos.No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount



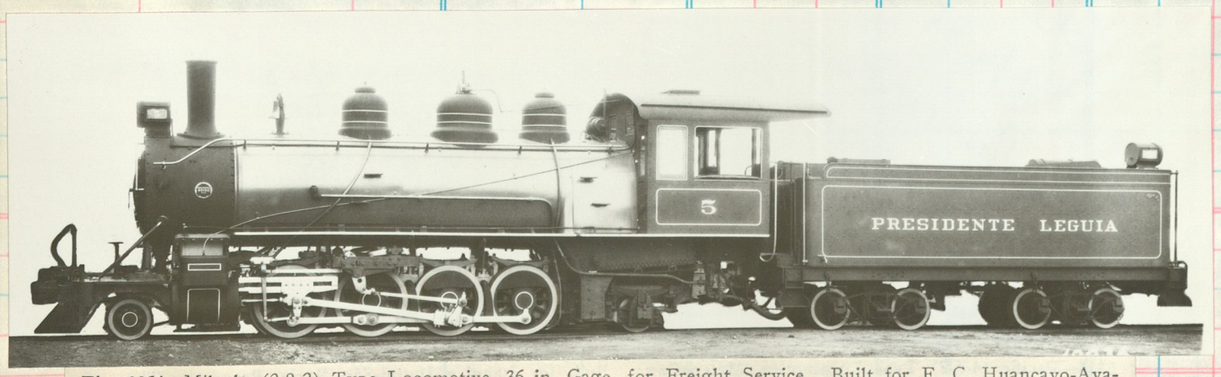


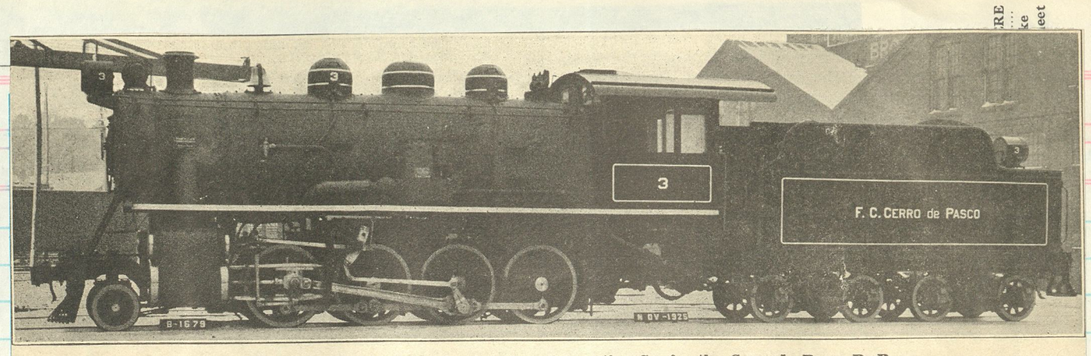
Fig. 3364—Mikado (2-8-2) Type Locomotive, 36 in. Gage, for Freight Service. Built for F. C. Huancayo-Ayacucho, Peru, by The Baldwin Locomotive Works.

Gage	3 ft. 0 in.	Evaporative heating surface	2,117 sq. ft.
Cylinders	17 in. x 22 in.	Grate area	33.2 sq. ft.
Steam pressure	190 lb	Weight on drivers	94,800 lb.
Diameter of drivers	43 in.	Weight of engine	127,200 lb.
Tractive force	23,900 lb.	Weight of tender	90,700 lb.
Driving wheel base	11 ft. 6 in.	Fuel	Soft Coal
Total wheel base	25 ft. 0 in.		

In 1927 Baldwin delivered a pair of Mikes to the F. C. Huancayo-Ayacucho noed 5 & 6 [c/n's 60100 & 60101]. Road was a planned extension southward from Huancavelcia to Ayacucho but only seven miles constructed. Later both engines went to the F.C.H.H. noed 105 & 106.

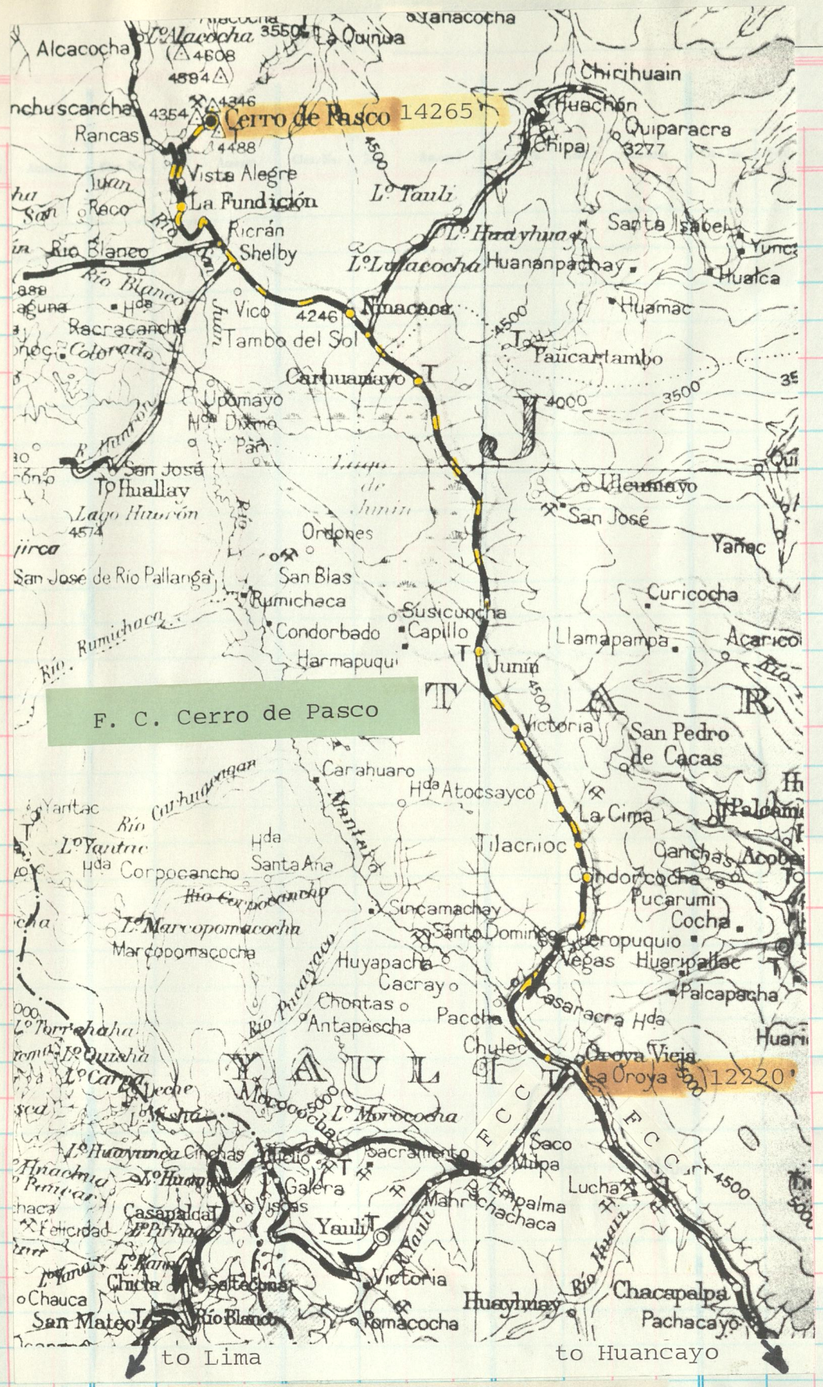
Total

Clos. No. | Sold | Amount | Clos. No. | Sold | Amount

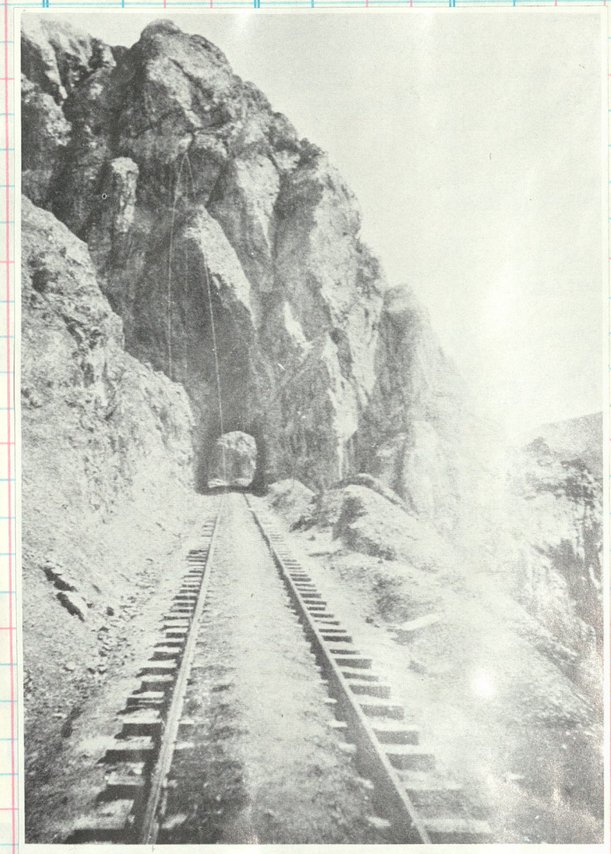


~~Mikado~~ Type Locomotive Built by American Locomotive Co. for the Cerro de Pasco R. R.

Two Consolidations built by Brooks in 1925 c/n 66576



Standard gauge 81 miles



On the Cerro de Pasco

68

SELLER
DATE
FORM

Three foot gauge

ES AT

Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount

Cuzco-Santa Ana Railway

Fighting the stiff incline just north of Cuzco a Henschel 2-8-2 works thru the switchbacks on the climb to the 12,200 foot summit at El Arco.

A Henschel 2-8-2, #126 c/n 26444 blt 1955, switching the yard at Cuzco

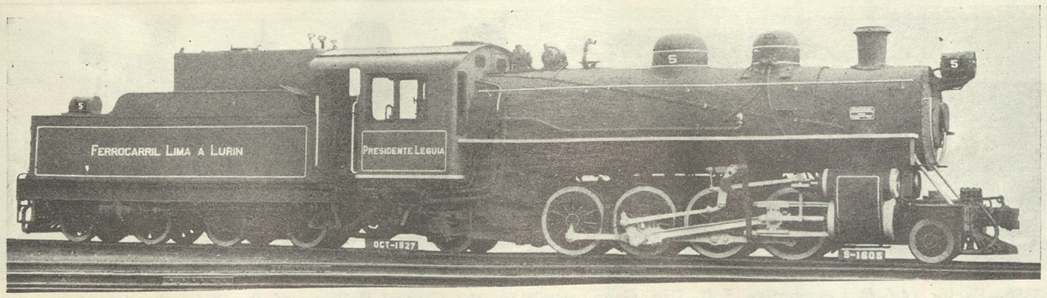


Fig. 3365—Mikado (2-8-2) Type Locomotive, 36 in. Gage. Built for the Ferrocarril Lima a Lurin, Peru, by the c/n 67539 American Locomotive Company. Schenectady 1927

Gage	3 ft. 0 in.	Evaporative heating surface	1,552 sq. ft.
Cylinders	19 in. x 20 in.	Superheating surface	361 sq. ft.
Steam pressure	170 lb.	Grate area	30.2 sq. ft.
Diameter of drivers	44 in.	Weight on drivers	93,000 lb.
Tractive force	23,600 lb.	Weight of engine	128,000 lb.
Driving wheel base	12 ft. 0 in.	Weight of tender	81,500 lb.
Total wheel base	26 ft. 2 in.	Fuel	Oil

Looking down two thousand feet as a passenger train threads its way thru the deep chasm near Machu Picchu

Total

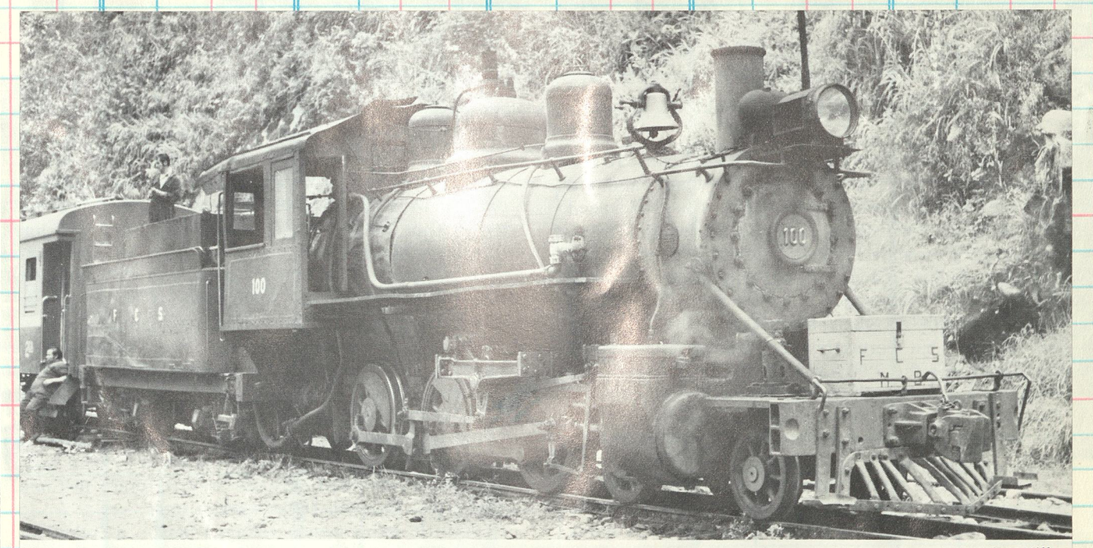
0 bks. (Eureka 29387)
Printed in U. S. A.
CUT HERE To Make Short Sheet

Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos.No.	Sold	Amount

Mike #120 assults the severe grades out of Cuzco. Note the brakeman atop the first coach.

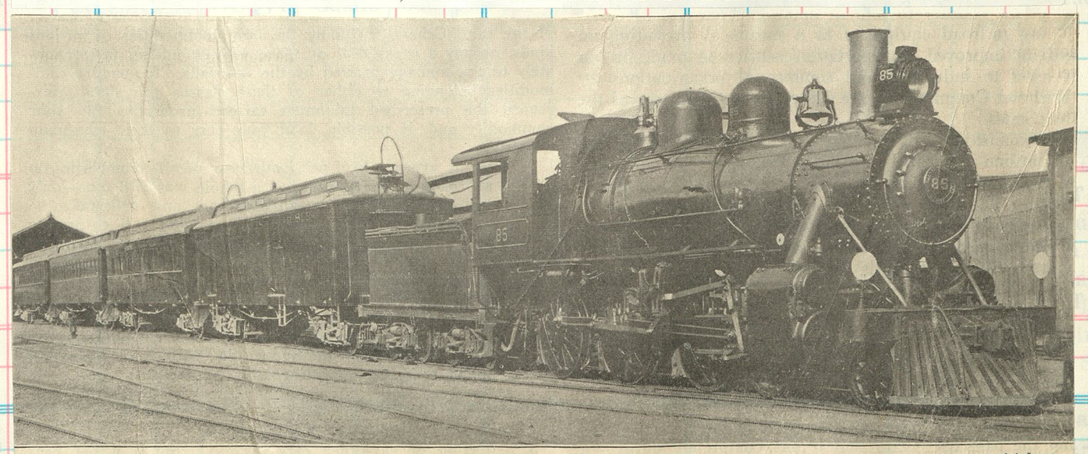
[ex Lima a Lurin 2-8-2 ???]

A long way from Oregon the #100, former Sumpter Valley Ten wheeler #50 built by Baldwin 1916 c/n 42865, waits at the Machu Picchu station as passengers climb aboard. Was sold to the F C S in 1947 and retired in mid 70's.



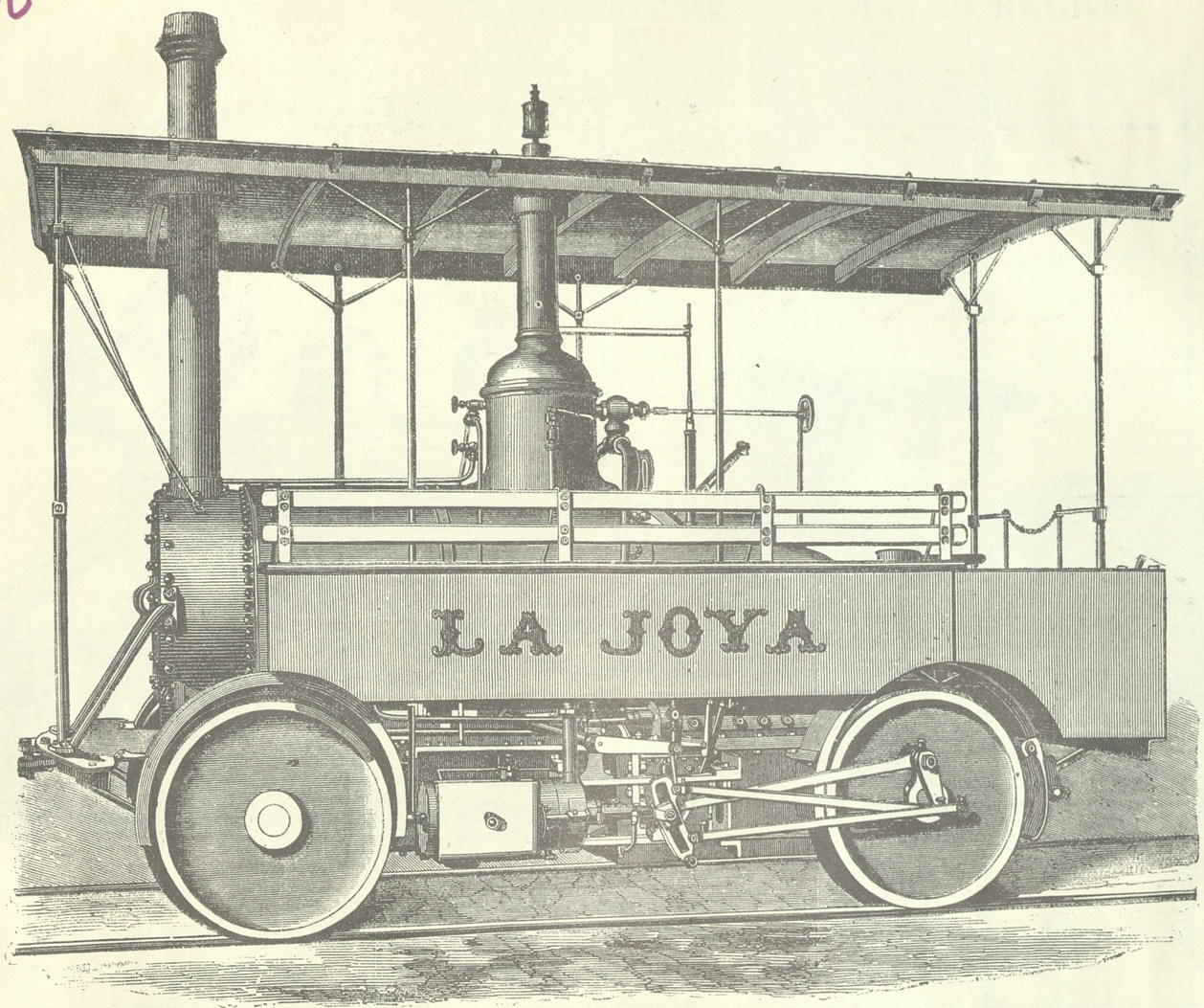
Ken Mills

Lettered for the Ferrocarril del Sur, Baldwin 100 and her crew relax at Machu Picchu in October of 1974.

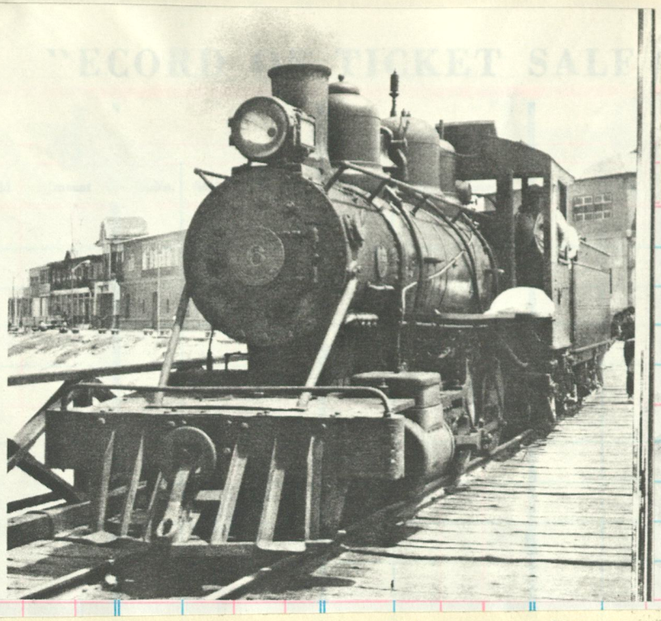


F.C.S. Built Complete at the Arequipa Shops, Southern Railways of Peru OKM

70

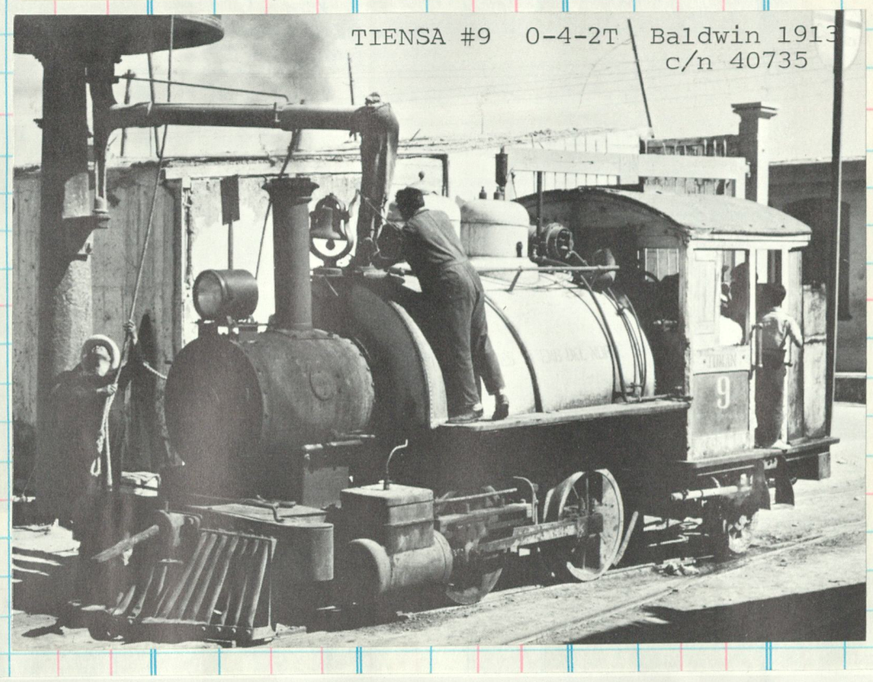


An 'Inspection Engine' built by Rogers in 1869, c/n 1621, for the Mejia y Arequipa (now part of F.C.S.) Was seen derelict at Puerto Eten in 1970's.

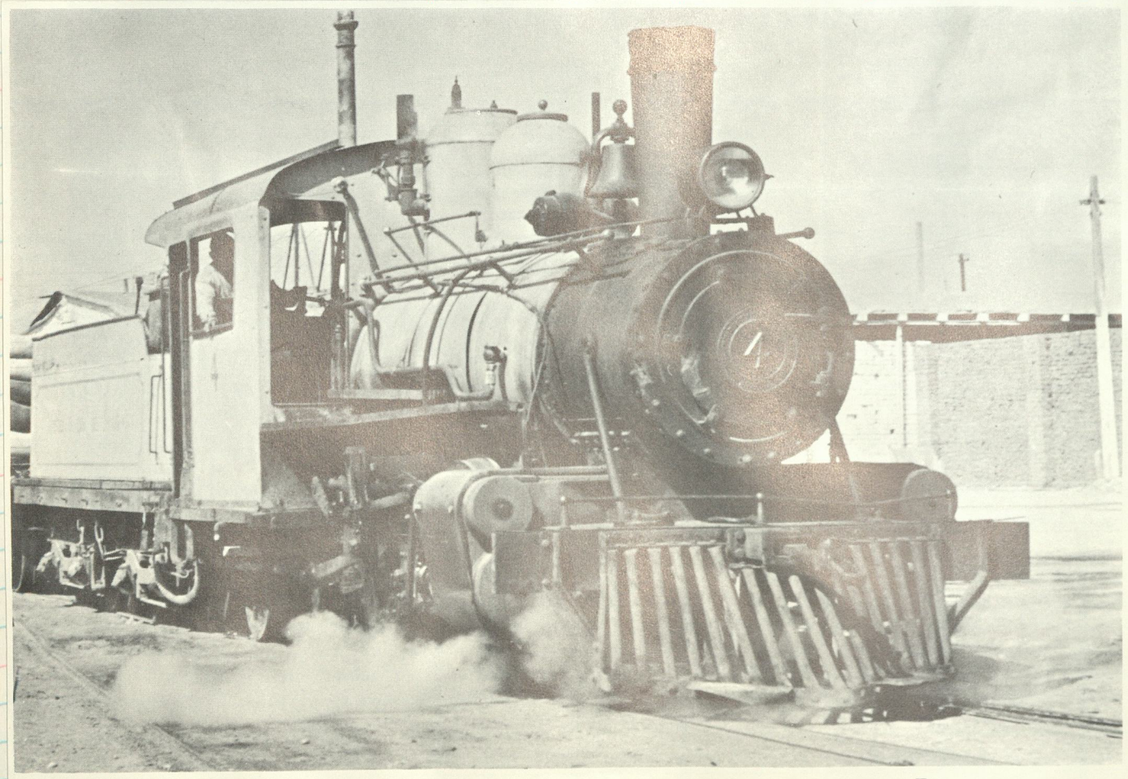


FCyMdeP #6 a 2-6-0
blt by Baldwin 1925

Compania Transportes y Embarques del Norte S.A.
[TIENSA]



TIENSA #9 0-4-2T Baldwin 1913
c/n 40735

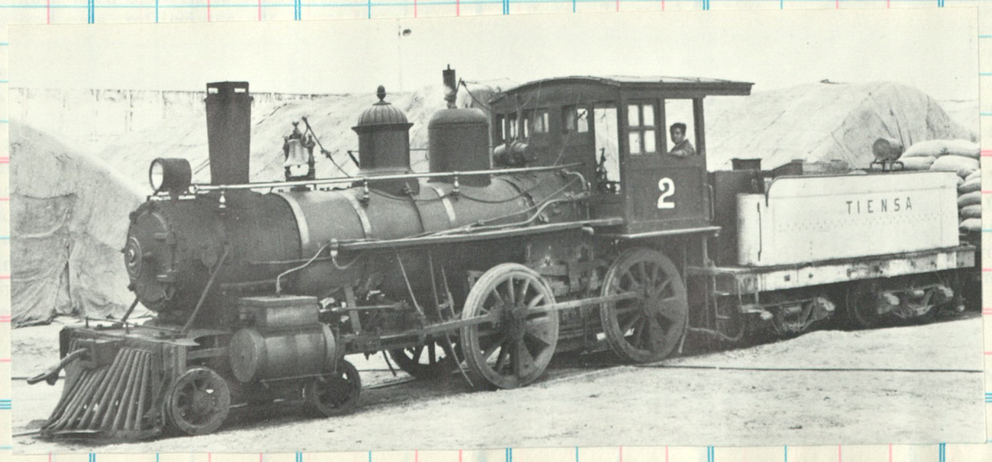


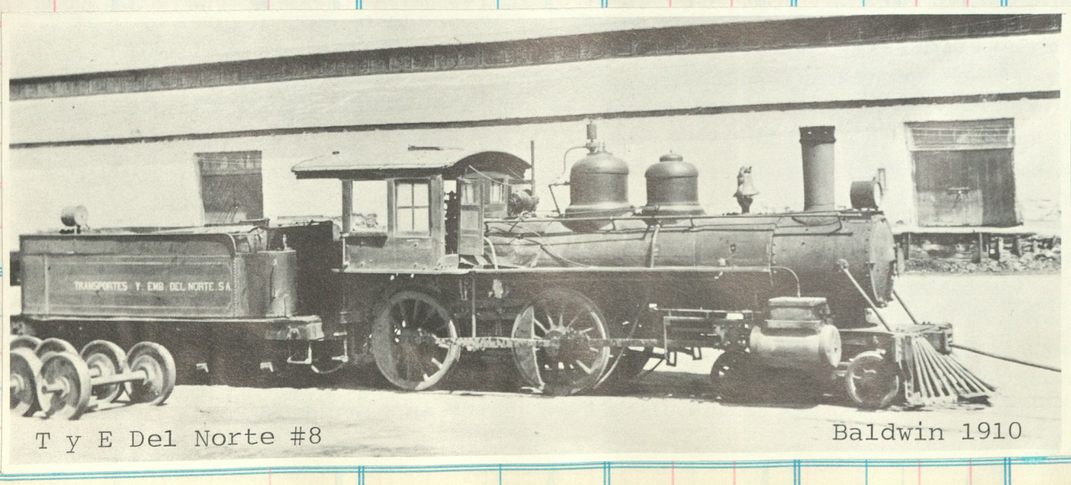
T y E Del Norte #4 0-4-2

Rogers 1890

Above: On a busy day at Puerto Eten in November 1972, No. 9 hauls workers to the muelle to load barges with sugar while No. 2 with 102 years of service behind it, works the yards.

Blt by Rogers 1870
c/n 1744 Reblt (?)
1953.

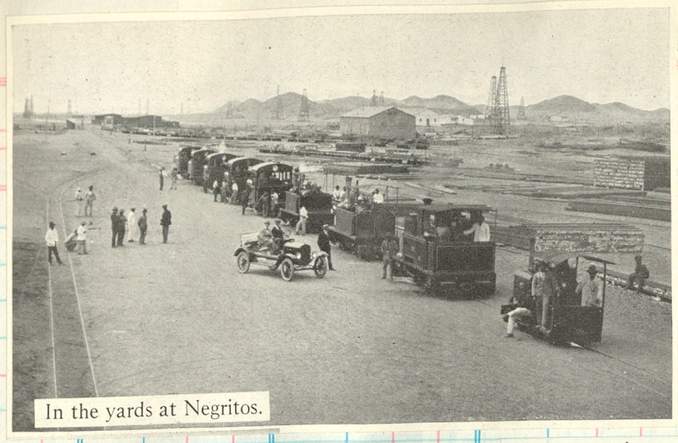




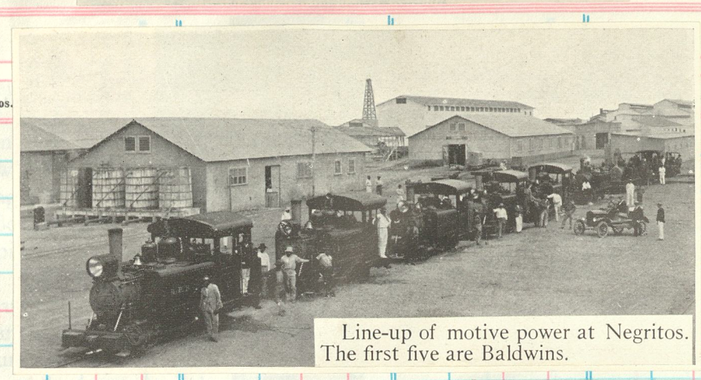
T y E Del Norte #8

Baldwin 1910

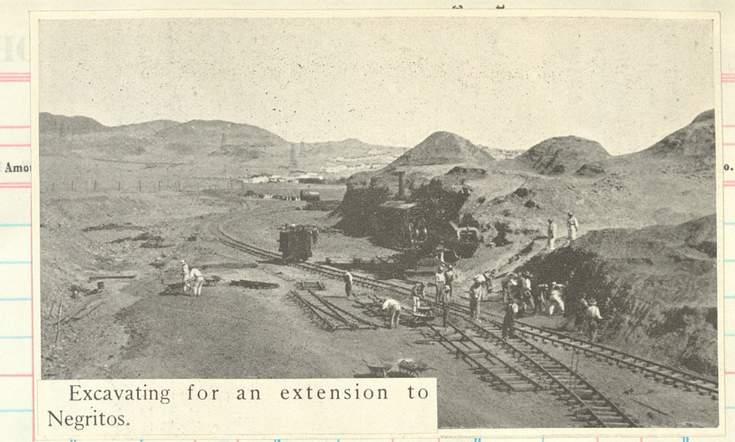
International Petroleum Co., Ltd.



In the yards at Negritos.



Line-up of motive power at Negritos. The first five are Baldwins.

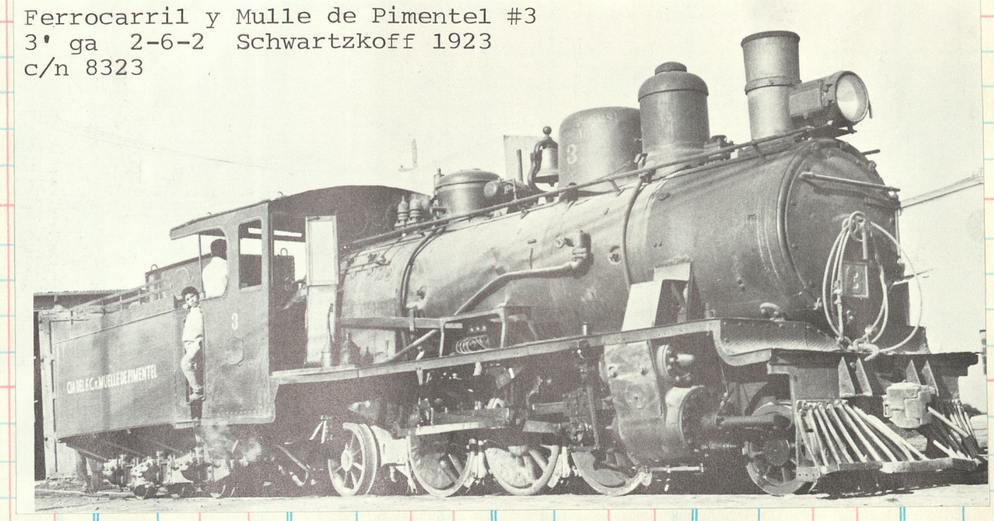


Excavating for an extension to Negritos.

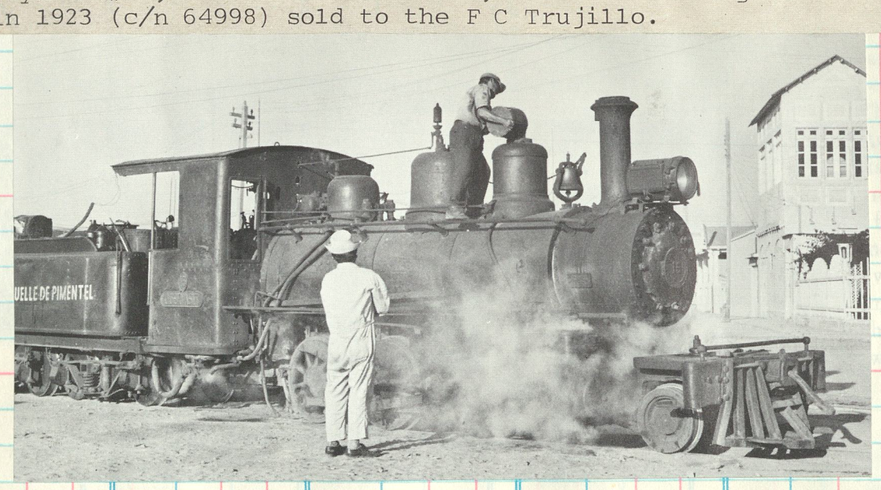
80 miles 2'6" gauge Pacific port at Talara

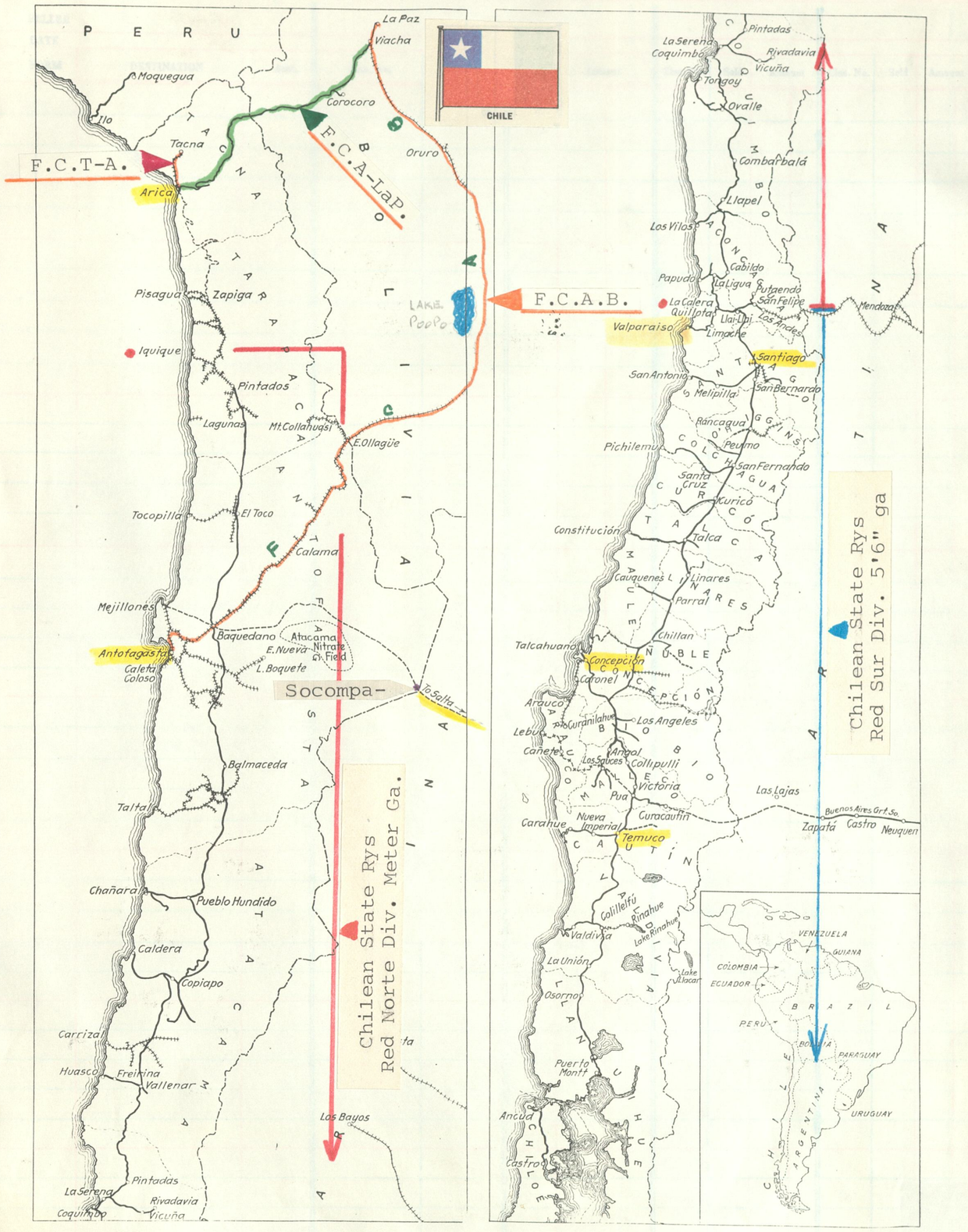
At Pimintel, Peru an attractive group of locomotives rests during a long Latin lunch hour. Left to right, an Alco 2-6-0 (1920), 2 Swartzkopf 2-6-2s (1925-6) and an Alco 2-8-0 (1913). F C y M de P

Ferrocarril y Mulle de Pimentel #3
3' ga 2-6-2 Schwartzkoff 1923
c/n 8323



FCyMdeP #15, above left and below, was a 'stock engine' built by Cooke in 1923 (c/n 64998) sold to the F C Trujillo.





The Railway Map of Chile

The Antofagasta (Chile) and Bolivia Railway Company, Ltd.

International train leaving Antofagasta, Chile, on the 729-mile run to La Paz, Bolivia, during the 1920s. *Courtesy: The Antofagasta & Bolivia Railway Company, Ltd.*

Docks at the port of Antofagasta, Chile. Ocean terminus for the Antofagasta & Bolivia Railway Company, Ltd., which ran 729 miles from La Paz, Bolivia. This picture was dated 1910. *Courtesy: The Antofagasta & Bolivia Railway Company, Ltd.*

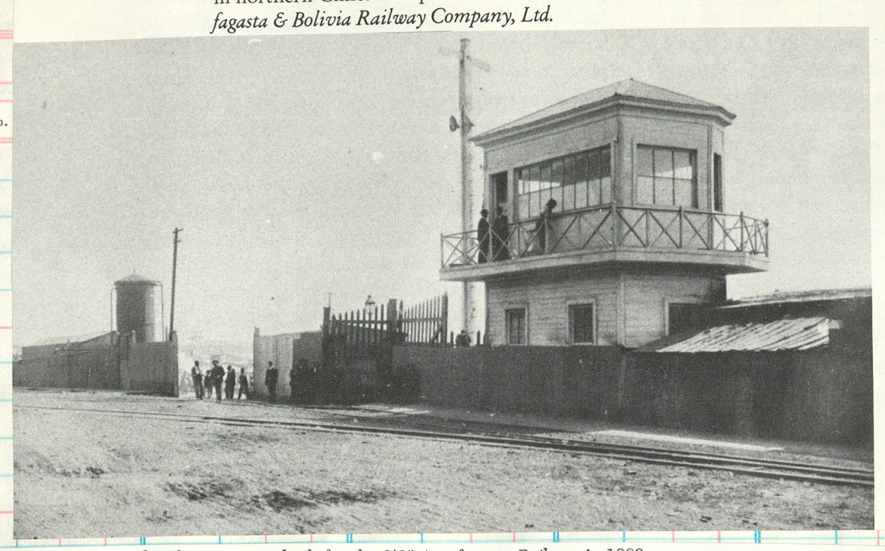
CHILE

Area: 286,396 sq. mi. Population: 5,916,078
Capital: Santiago Monetary Unit: Peso
Largest City: Santiago Form of Govt.: Republic

The Chile section of the F C A B initially built to 30" gauge. Widened to Meter gauge in 1926

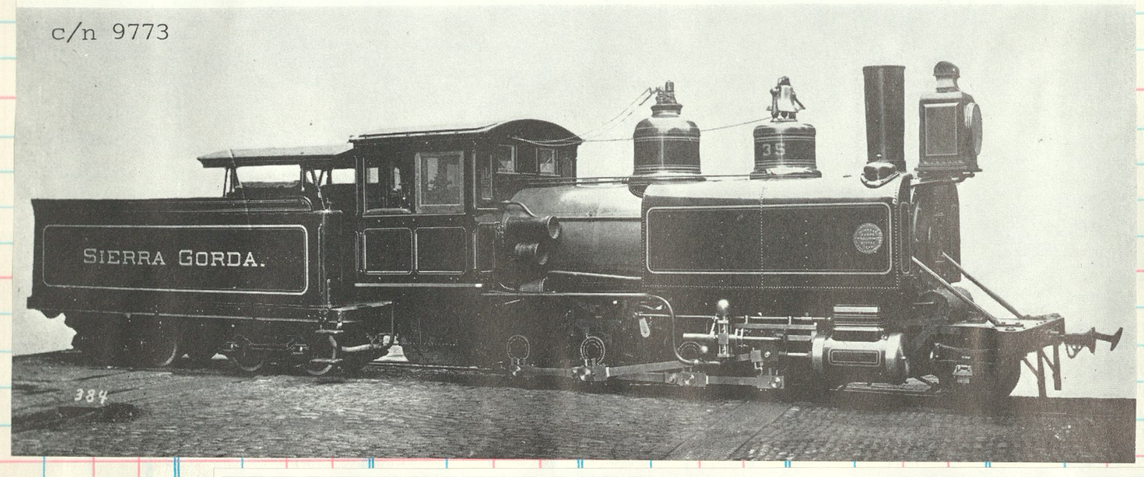
Clos. No. | Sold | Amount | Clos. No.

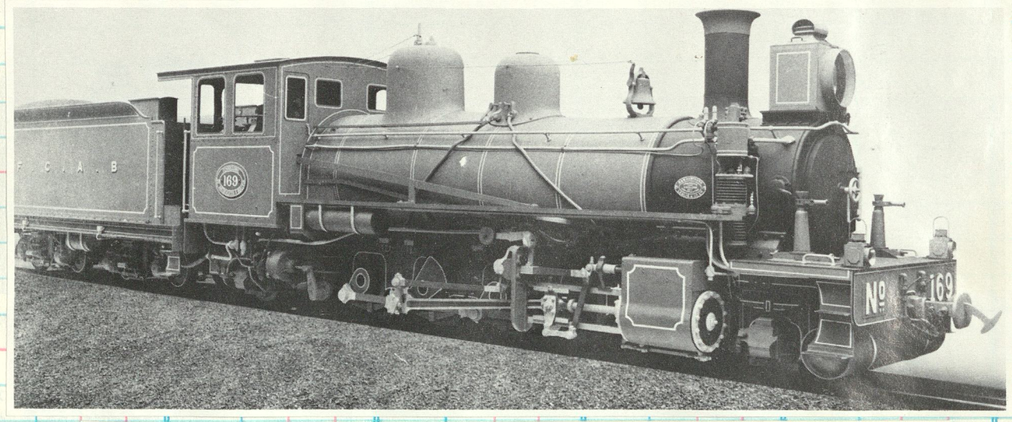
Entrance to the FCAB railway yard and control tower at Antofagasta in northern Chile. This picture was taken in 1927. *Courtesy: The Antofagasta & Bolivia Railway Company, Ltd.*



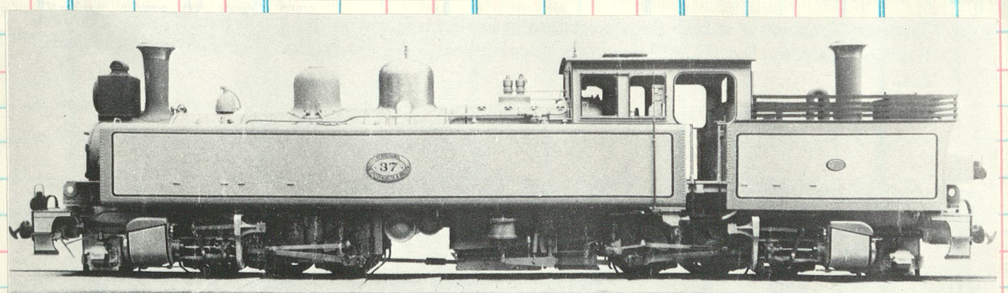
THIS ODD 2-8-0 TENDER *and* tank engine was built for the 2'6" Antofogasta Railway in 1889.
(Collection of C. A. Brown)

c/n 9773



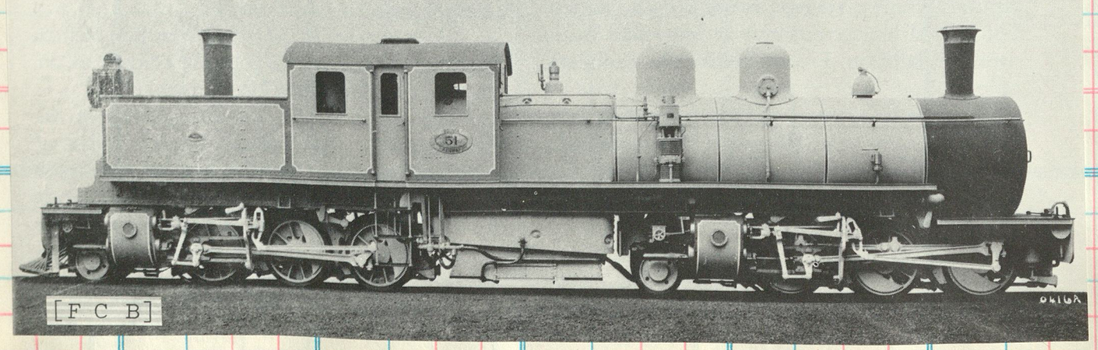


FCAB #169, a 30" gauge 2-8-2, built by Hawthorne Leslie



Articulated tank engine No. 37 was built on the Kitson–Meyer principle and was put in service in northern Chile on November 30, 1911, on 2-foot, 6-inch-gauge tracks on the FCAB line. This locomotive was fitted with Westinghouse brakes and had a coal capacity of 4 tons; water capacity was 3,100 gallons; and the boiler pressure was 180 pounds per square inch. Loaded weight was 89 tons. *Courtesy: The Antofagasta & Bolivia Railway Company, Ltd.*

F.C.A.B. #54 Henschel & Sohn 1913 meter gauge



LARGEST METRE GAUGE LOCOMOTIVE IN THE WORLD.

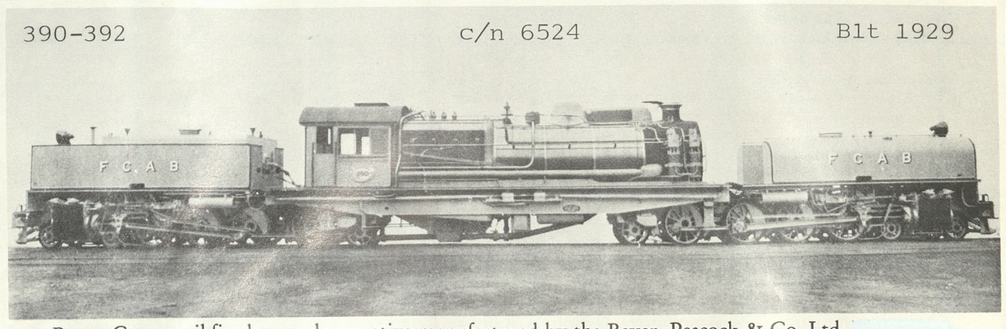
Tractive Effort (at 75% B.P. 48,700 lbs. | 65 lb. Rail. | *Maximum Axle Load* 13 Tons.

Cylinders (4)
Diameter ... 18 in.
Stroke ... ... 26 in.
Boiler Pressure ... 185 lbs. sq. in.
Coupled Wheel diameter 4 ft. 0 in.

Heating Surface: *Tubes* ... 2,647 sq. ft.
Firebox ... 217 do.
Superheater 593 do.
Total ... 3,457 do.
Grate Area ... ... 55 sq. ft.

Water Capacity ... ... 5,000 *Gallons.*
Fuel Capacity (Oil) ... 1,670 do.
Adhesive Weight ... ... 104·15 *Tons.*
Factor of Adhesion ... ... 4·8.
Total Weight, in working order. 169·65 *Tons.*

390-392 c/n 6524 Blt 1929



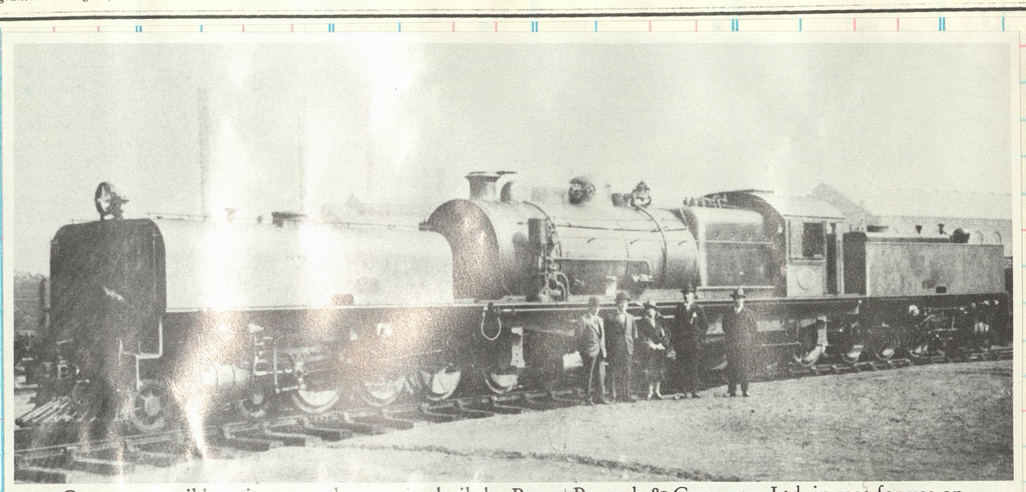
Beyer-Garratt oil-fired steam locomotive manufactured by the Beyer, Peacock & Co. Ltd.

Three **"BEYER-GARRATTS"** of the above type have recently been designed and manufactured at our Works for the **Antofagasta (Chili) & Bolivia Railway,** and are the most powerful locomotives ever constructed for service on the Metre Gauge.

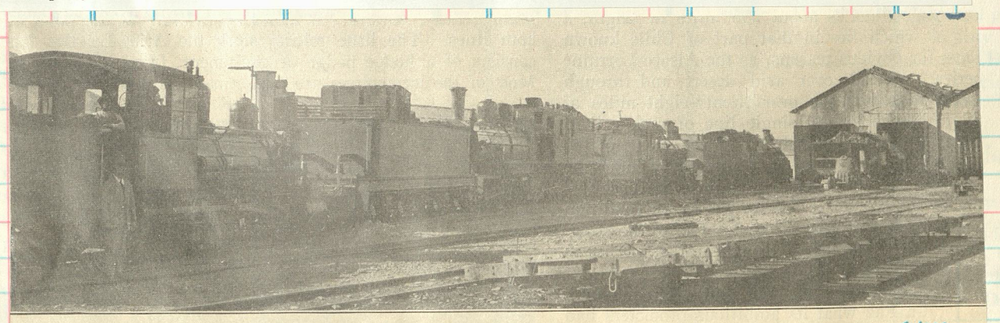
These Engines, which are designed for operating on long 3% grades compensated for curves of 100 metres radius, are fitted with bar frames, "Westinghouse" brakes, steam sanding, Superheater Co.'s superheater with M.L.S. multiple valve regulator and header, and Hopkinson Ferranti type stop valve, "Weir" feed-water heater and pump, steam reversing gear, oil firing arrangement, etc.

BEYER PEACOCK & CO., LIMITED

Telegrams: "Loco, Gorton." **GORTON FOUNDRY, MANCHESTER.** Telephone: Central 5663-5664.
Telegrams: "Folgore, Sowest." LONDON OFFICE: ABBEY HOUSE, WESTMINSTER. Telephone: Victoria 8082.

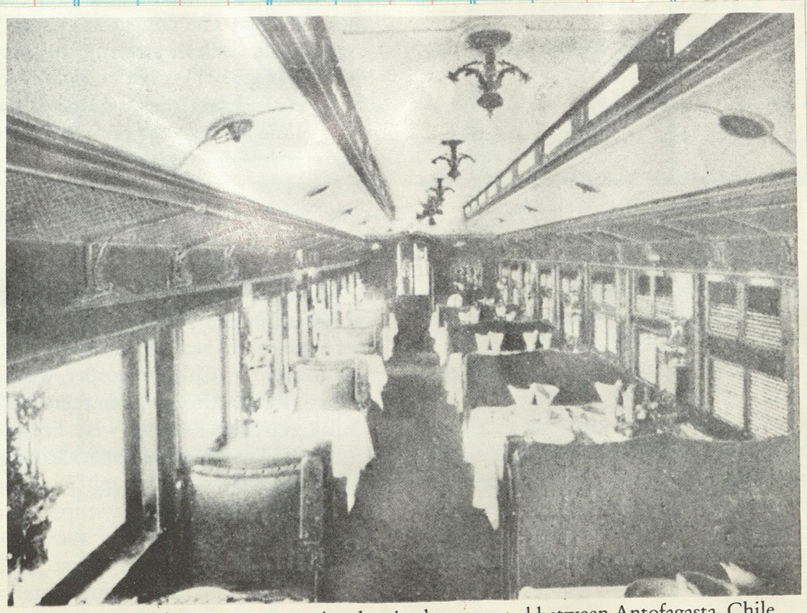


Garratt-type oil-burning steam locomotive built by Beyer, Peacock & Company, Ltd. in 1929 for use on northern Chile railways. This picture is dated April 19, 1929. *Courtesy: The Antofagasta & Bolivia Railway Company, Ltd.*



Types of Power of the Antofagasta & Bolivia in the Yards at Oruro

OKM



Dining car on the FCAB International train that operated between Antofagasta, Chile, and La Paz, Bolivia, in the early 20th century. *Courtesy: The Antofagasta & Bolivia*

3' 6"

74

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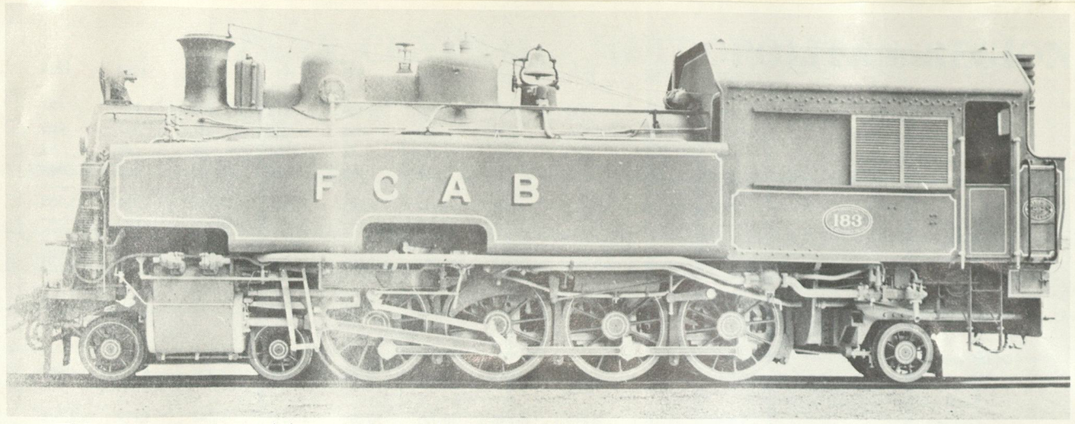
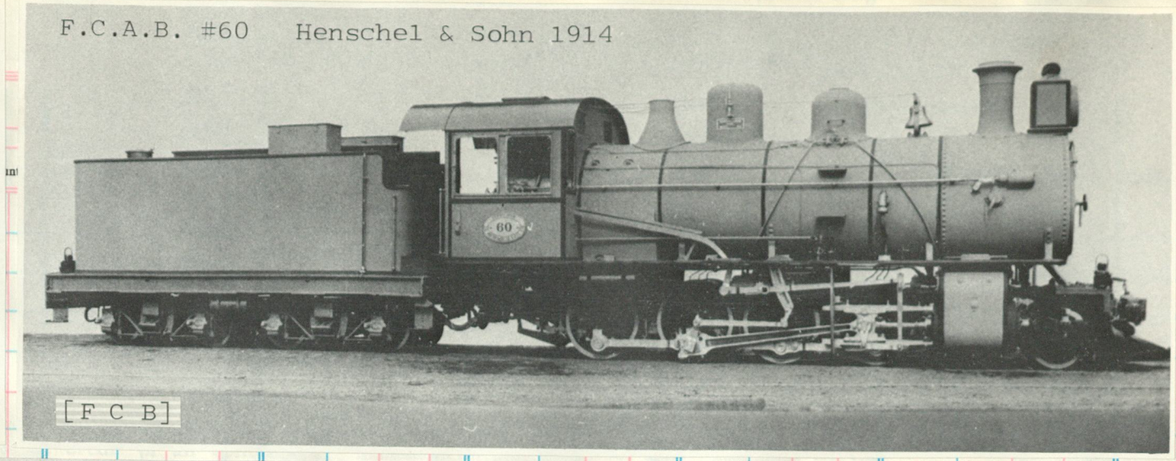
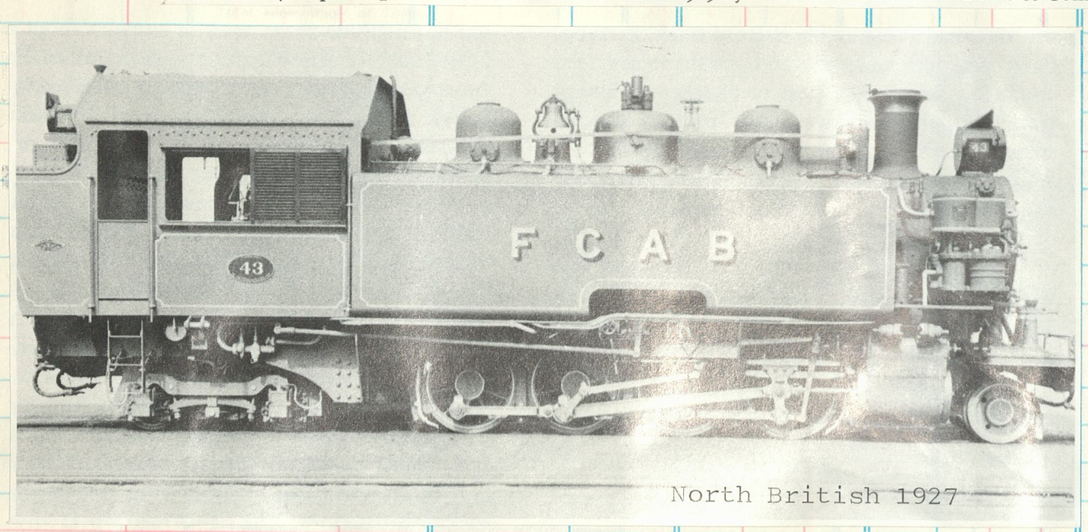


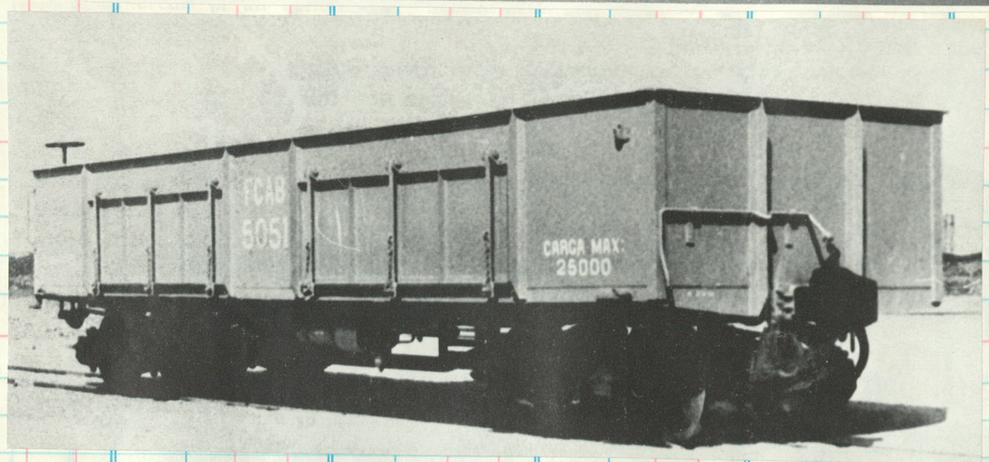
This 4-8-2 passenger tank locomotive was built in 1929 by the B. & W Hawthorn Leslie & Company, Ltd.

F.C.A.B. #60 Henschel & Sohn 1914

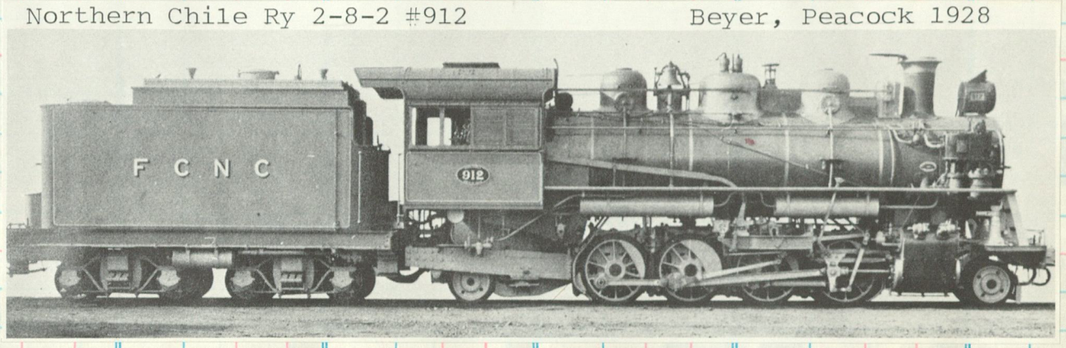


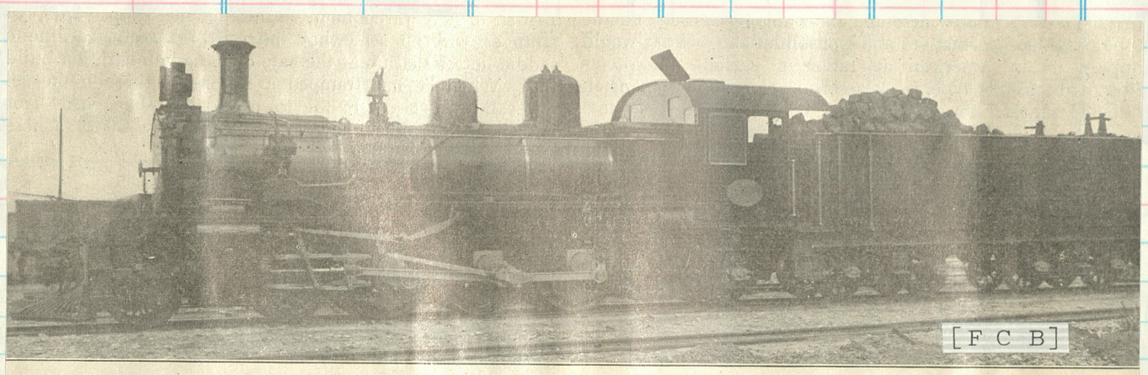


North British 1927



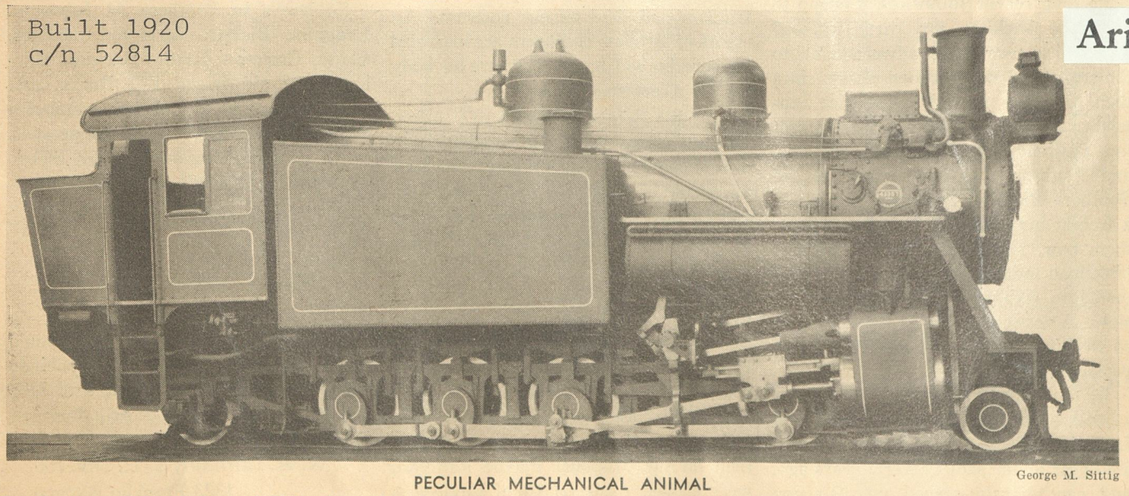
Northern Chile Ry 2-8-2 #912 Beyer, Peacock 1928



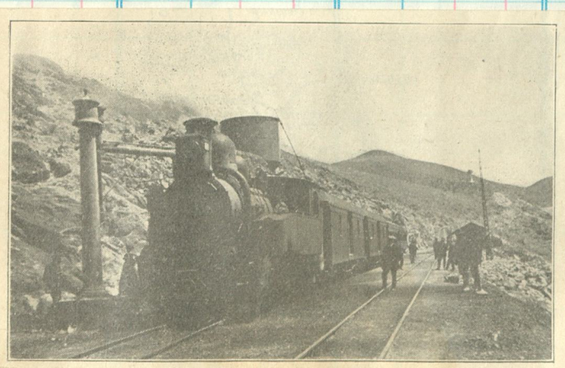


There Are Four of These German Pacifics on the Antofagasta & Bolivia Henschel 1914

Built 1920
c/n 52814



Arica-La Paz Railway



Train on the Arica-La Paz About to Enter Long Rack Rail Section

The F.C.A-LaP. a 285 mile meter gauge road built 1909-1913. Has the longest continous stretch of rack rail on any railroad in the world, 26.5 miles of 6% that climbs 8,000 ft between Central and Puqnois, Chile.

PECULIAR MECHANICAL ANIMAL

George M. Sittig

For the Arrica LaPaz Railway of Chile, this rack and adhesion locomotive was built by the Baldwin Locomotive Works. Cylinders (rack), 17 by 18 inches; cylinders (adhesion), 19 by 20 inches; drivers, 37 inches; water pressure, 190 lbs.

Built 1923
c/n 57078

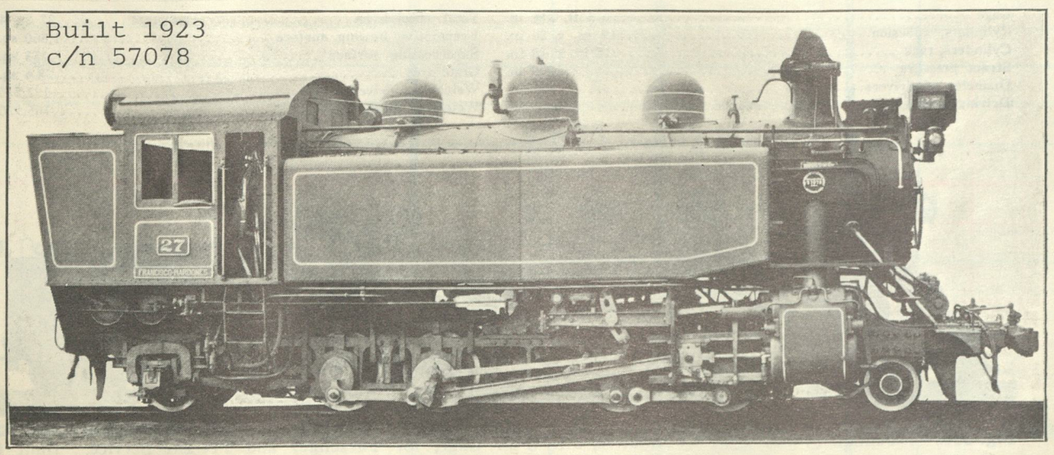


Fig. 3218—Combined Rack and Adhesion Locomotive. Meter Gage. Built for Arica la Paz Railway, Chili, by The Baldwin Locomotive Works.

Gage	3 ft. 3⅜ in.	Total wheel base	27 ft. 4 in.
Cylinders, adhesion	19 in. x 20 in.	Evaporative heating surface	1,660 sq. ft.
Cylinders, rack	18 in. x 18 in.	Superheating surface	355 sq. ft.
Steam pressure	200 lb.	Grate area	28.6 sq. ft.
Diameter of drivers	37 in.	Weight on drivers	122,270 lb.
Driving wheel base	14 ft. 4 in.	Weight of engine	165,970 lb.

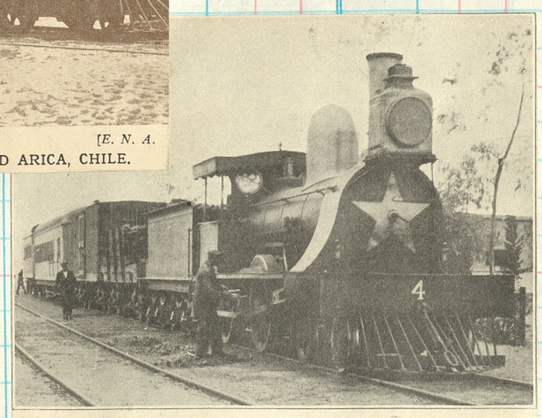
Clos. No. | Sold | Amount

Tacna-Arica Railway

A s.g. line 38 miles across arid desert country built in the early 1850's.

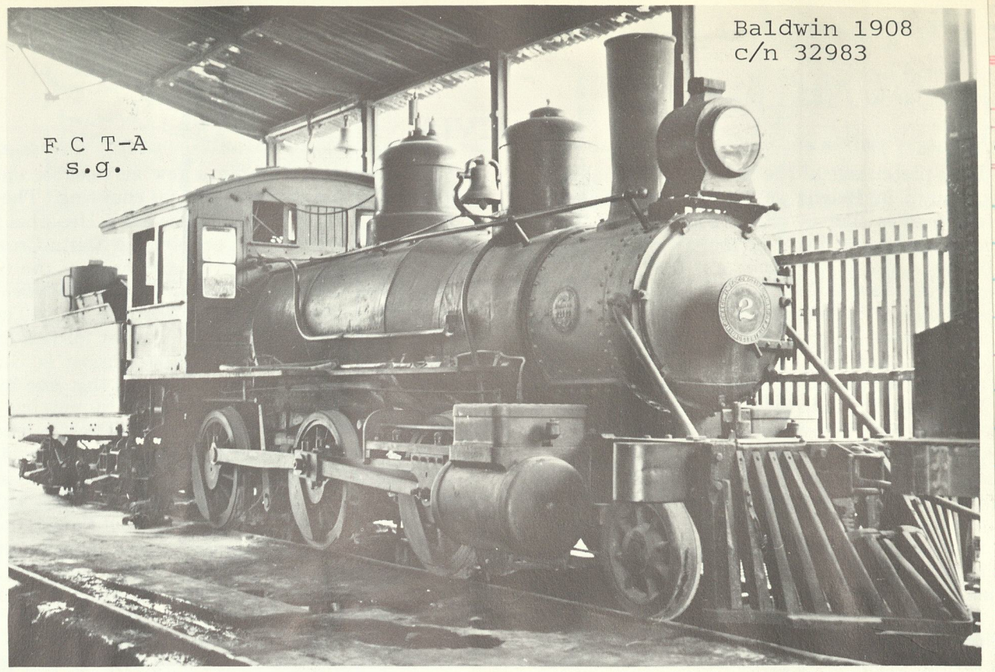
[E. N. A.

A TOURIST TRAIN AT A HALT IN THE DESERT BETWEEN TACNA AND ARICA, CHILE.



—International Photo.

A Locomotive that Burns Any Kind of Fuel, on the Tacna Line in Chile



Clos.No. | Sold | Amount

Among the last of her breed. A unique Kitson-Meyer [1906] 0-6-0=0-6-0 that operated on the 3'6" F C Salitrero de Taltal.

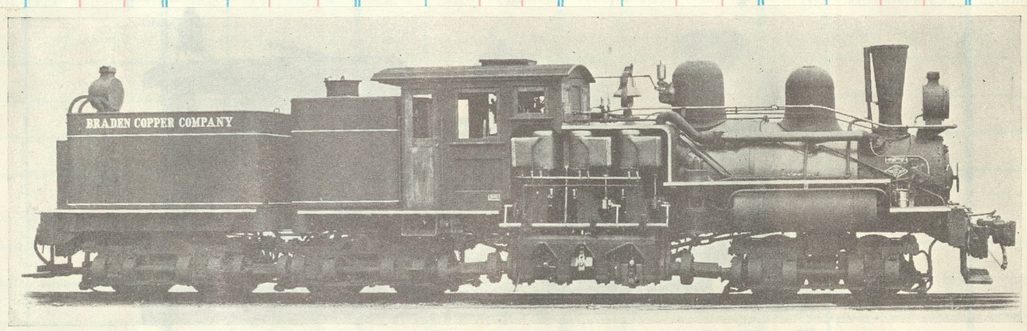
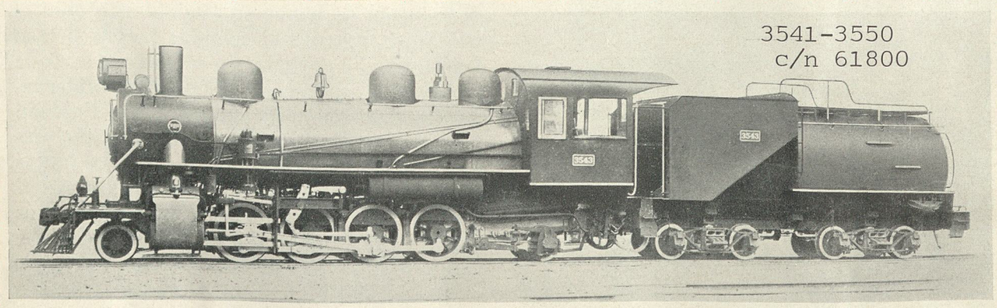


Fig. 3360—Shay-Geared Locomotive. Built for Braden Copper Company, Chile, by the Lima Locomotive Works. Gage, 30 in.; Weight, 120,000 lb.; Tractive Force, 25,830 lb.

CHILEAN STATE RAILWAYS

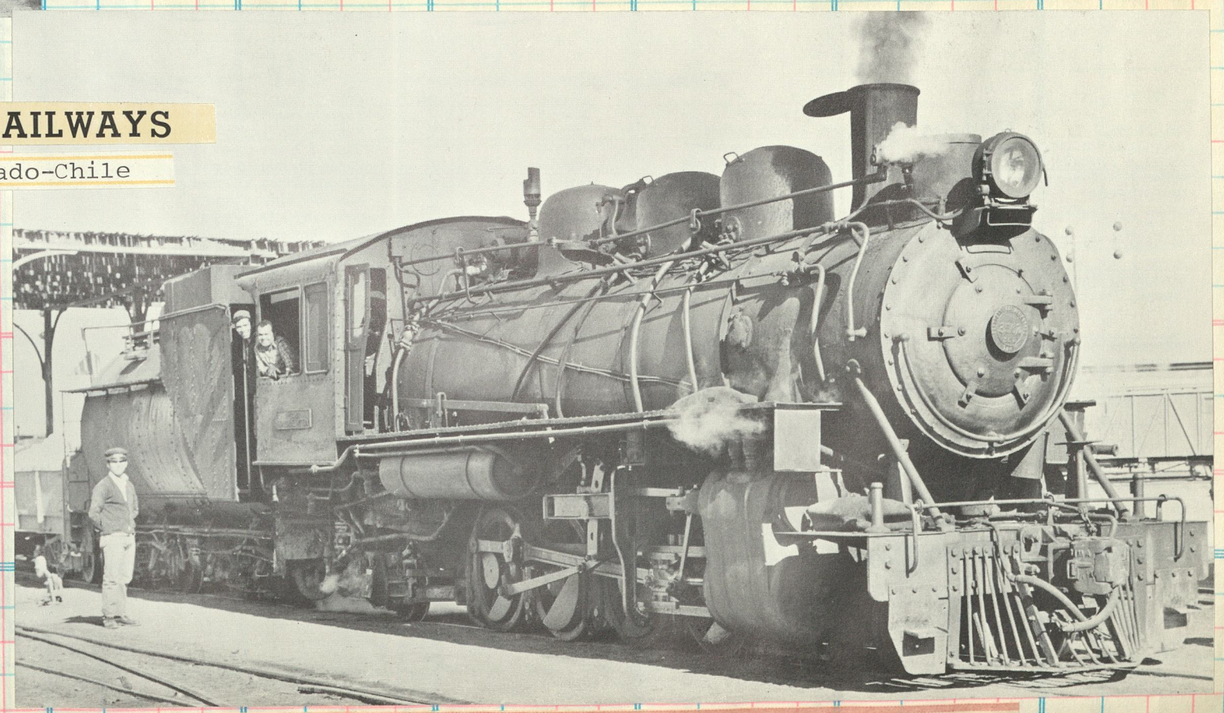
Ferrocarriles del Estado-Chile

3541-3550
c/n 61800



One of the Ten Baldwin Mikado (2-8-2) Type Locomotives Shipped During November, 1934, to the Chilean State Railways

Gauge .....1000 mm.	Heating surface .....147.18 m².	Weight on drivers.....47,540 kg.
Cylinders .....495 mm. x 560 mm.	Superheating surface.....34.80 m².	Weight total engine .....64,744 kg.
Steam Pressure .....12.3 kg.	Grate area .....2.92 m².	Weight, engine and tender...110,108 kg.
Drivers, diam. .....1 m. 105 mm.	Tractive force .....12,630 kg.	Service, passenger and freight.



3551-3556 c/n 62428 Baldwin 1940

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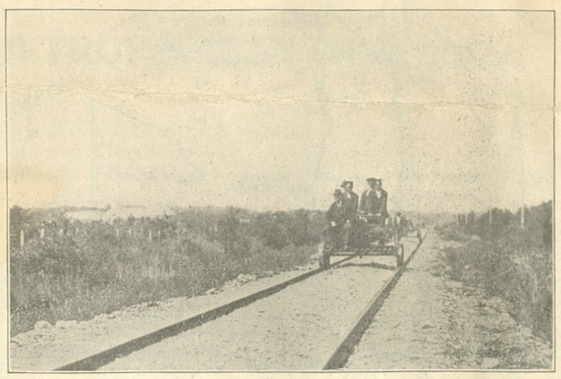
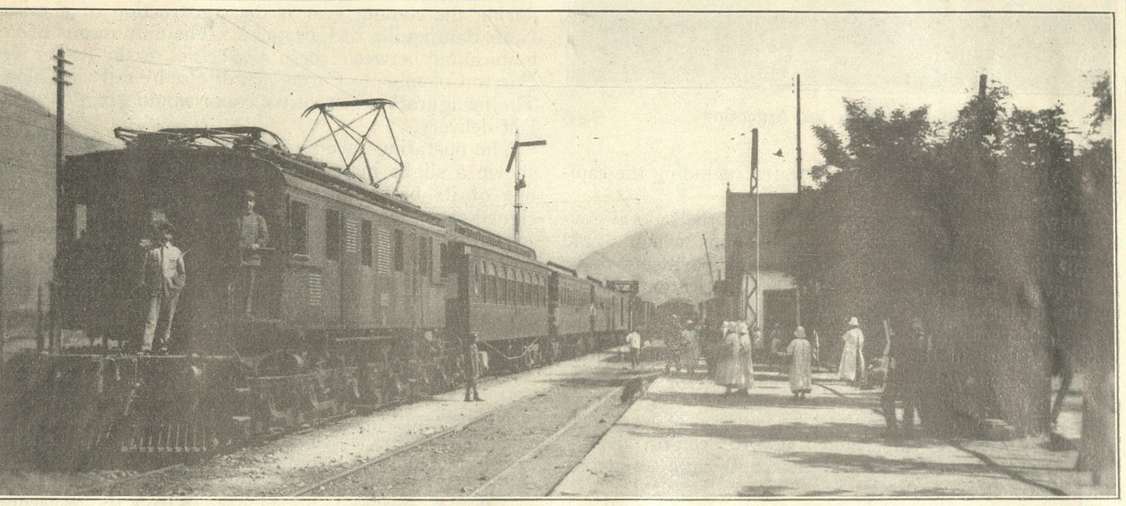
Puerto Station, Valparaiso. The Station Building Is on the Right

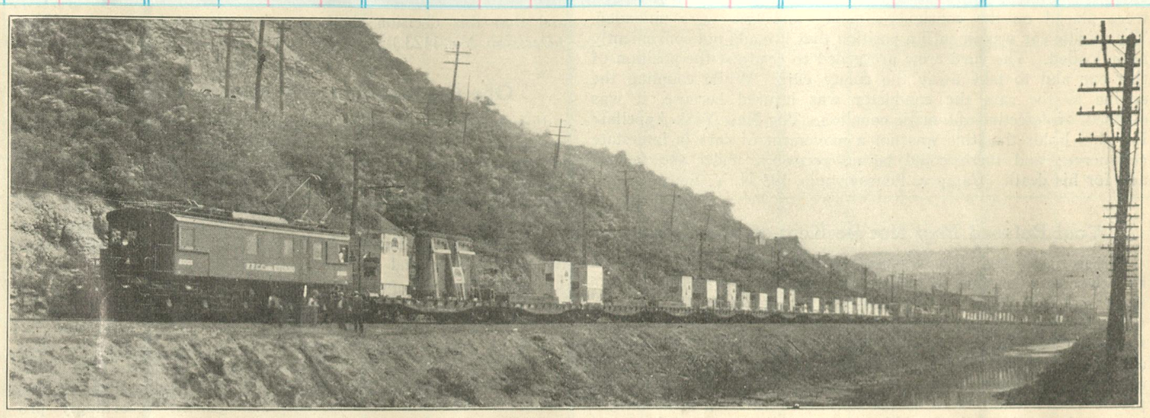


Right of Way Near Frutillar, Chilean State Railways

Las Cuchuras Bridge Spanning the Vina del Mar River near El Salto

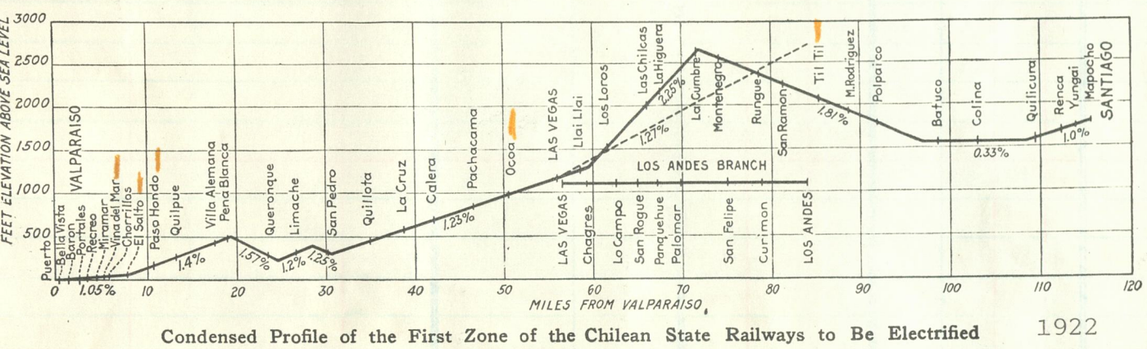


Electric Express Passenger Locomotive, Chilean State Railways

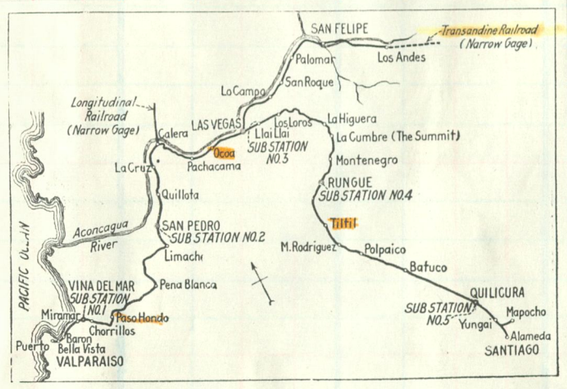


Train of Supplies for Chile With Chilean Locomotive at Head

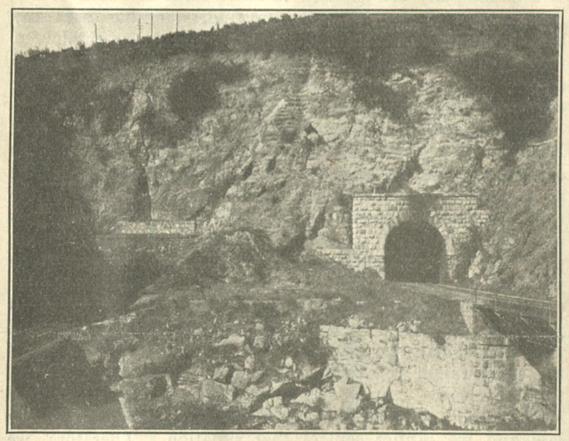
1922



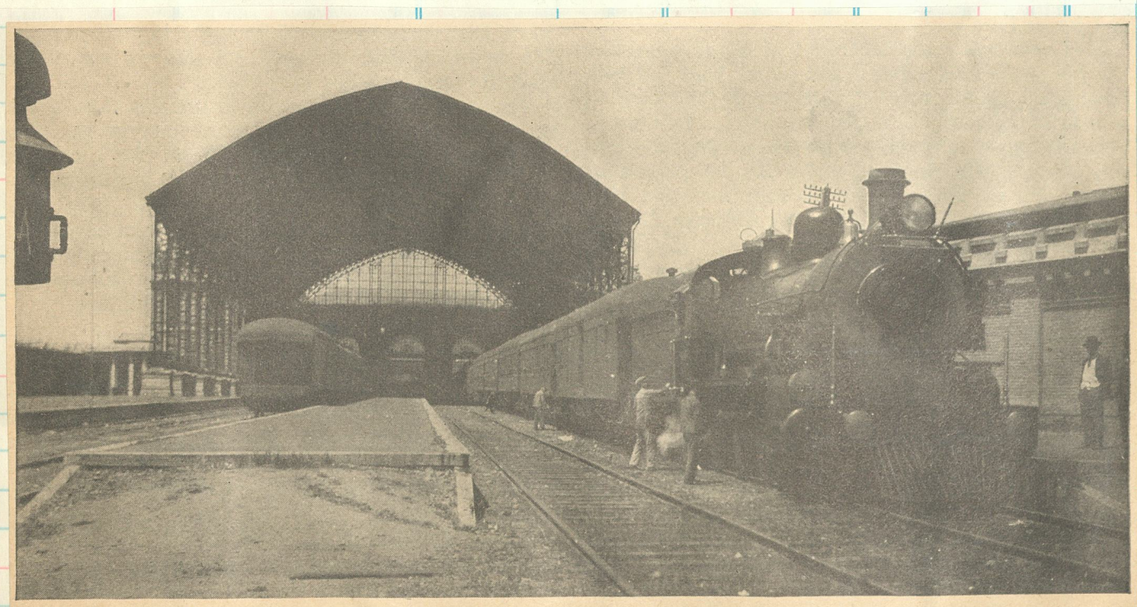
Condensed Profile of the First Zone of the Chilean State Railways to Be Electrified 1922



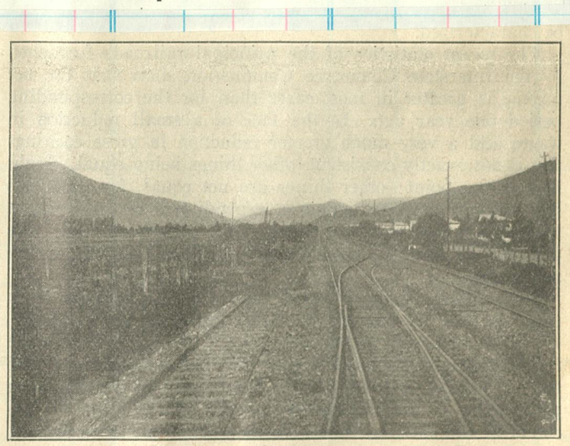
Map of Zone Being Electrified 1922



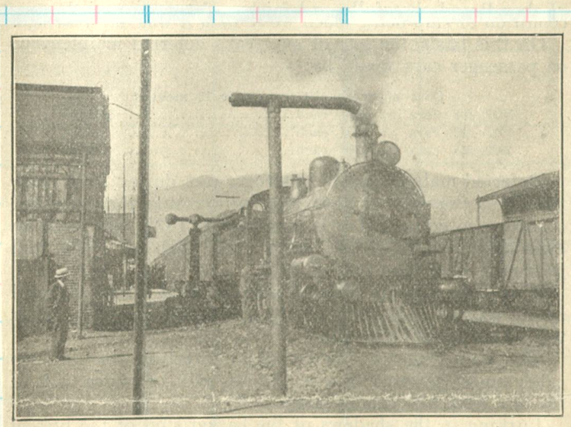
East Portals of the Paso Hondo Tunnel



AN EXPRESS TRAIN ON THE CHILEAN RAILWAYS AT SANTIAGO STATION

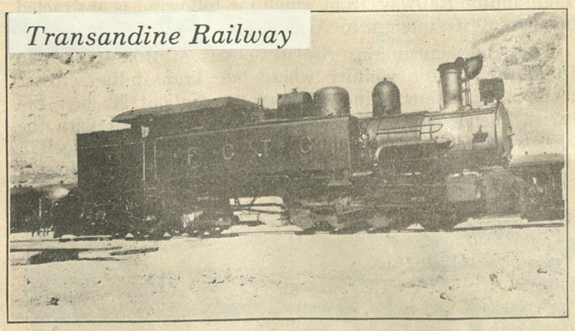


View of the Double Track Section, Looking East from Ocoa



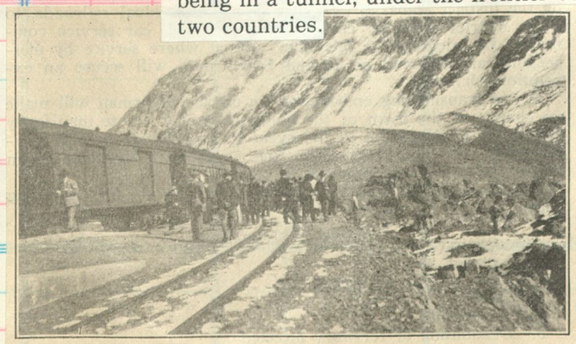
Express Train at Til Til Drawn by a Baldwin Locomotive

Transandine Railway



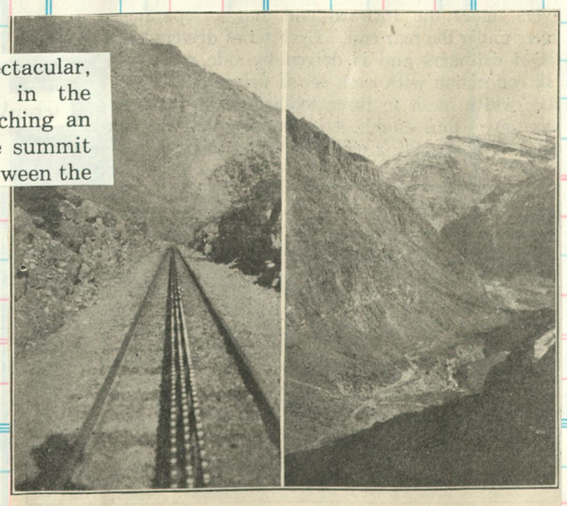
The Locomotive with Two Engines, Which Pulls the Train Over the Steep Grades on the West Side of the Mountains. Each Set of Drivers Carries a Set of Gears Which Mesh in a Triple Rack

This metre-gauge line is extremely spectacular, crossing the Andes from Mendoza in the Argentine to Los Andes in Chile, reaching an altitude of 10,400ft in the process, the summit being in a tunnel, under the frontier between the two countries.



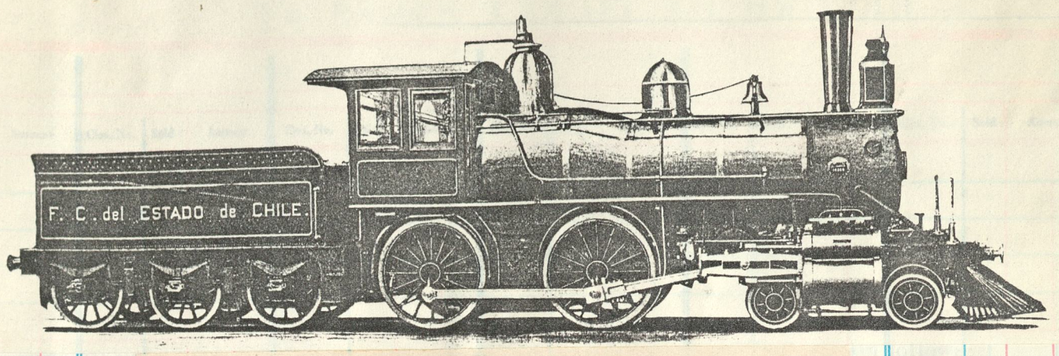
A Stop Near the Summit of the Mountains

On the steepest section, rack-and-adhesion locomotives were used, including some remarkable Kitson-Meyers with adhesion on one bogie and rack on the other.

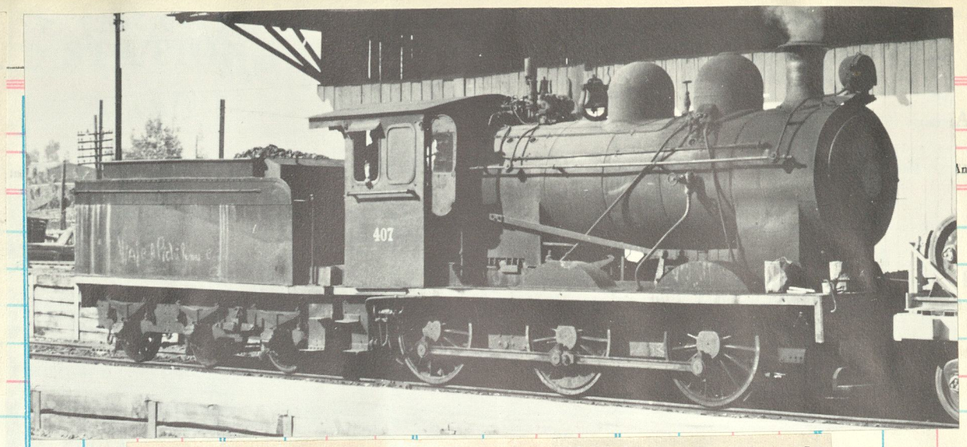


On the Left, the Triple Rack on the Seven Per Cent Grade. On the Right, a View on the Way Up the Seven Per Cent Grade. The Track at the Point from Which the Picture Was Made Is About Half a Mile Almost Directly Over the Track That Shows Below

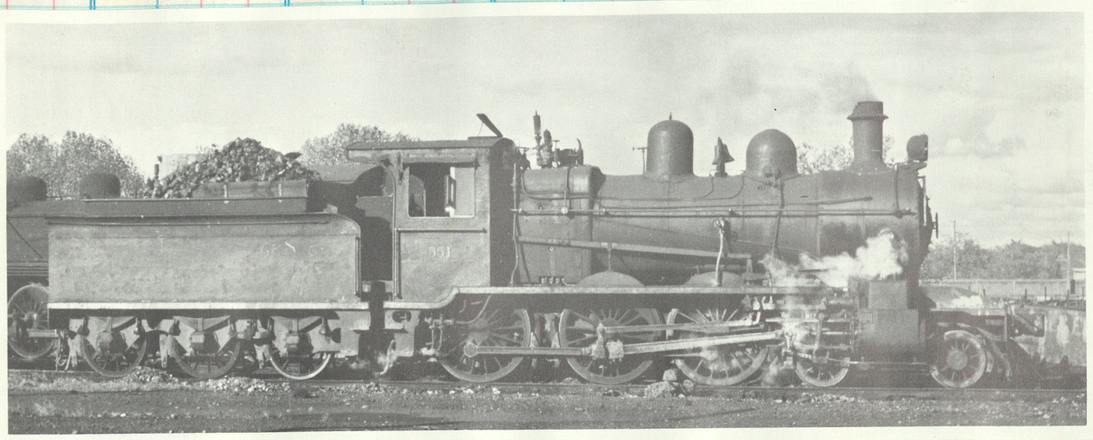
The Trans-Andine Railway Operating Under Difficulties



Four compounds delivered by Baldwin in 1895

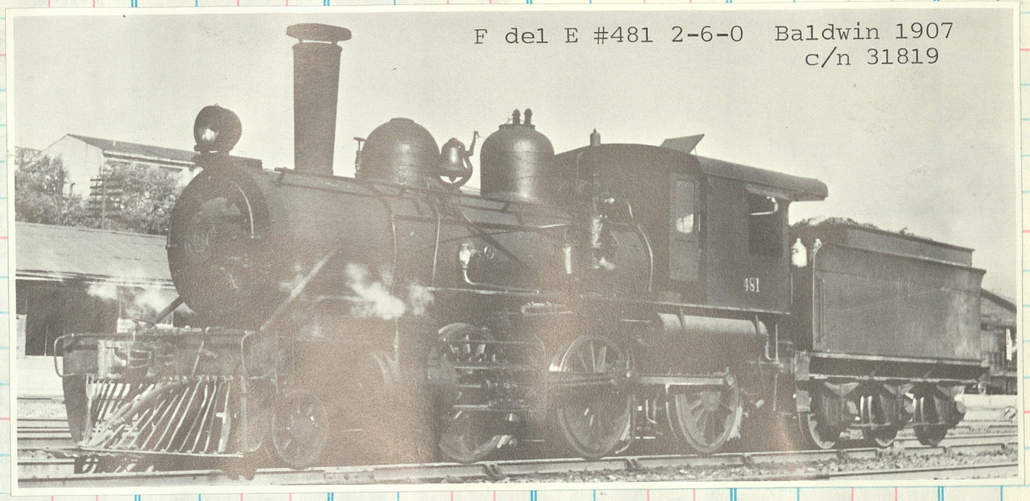


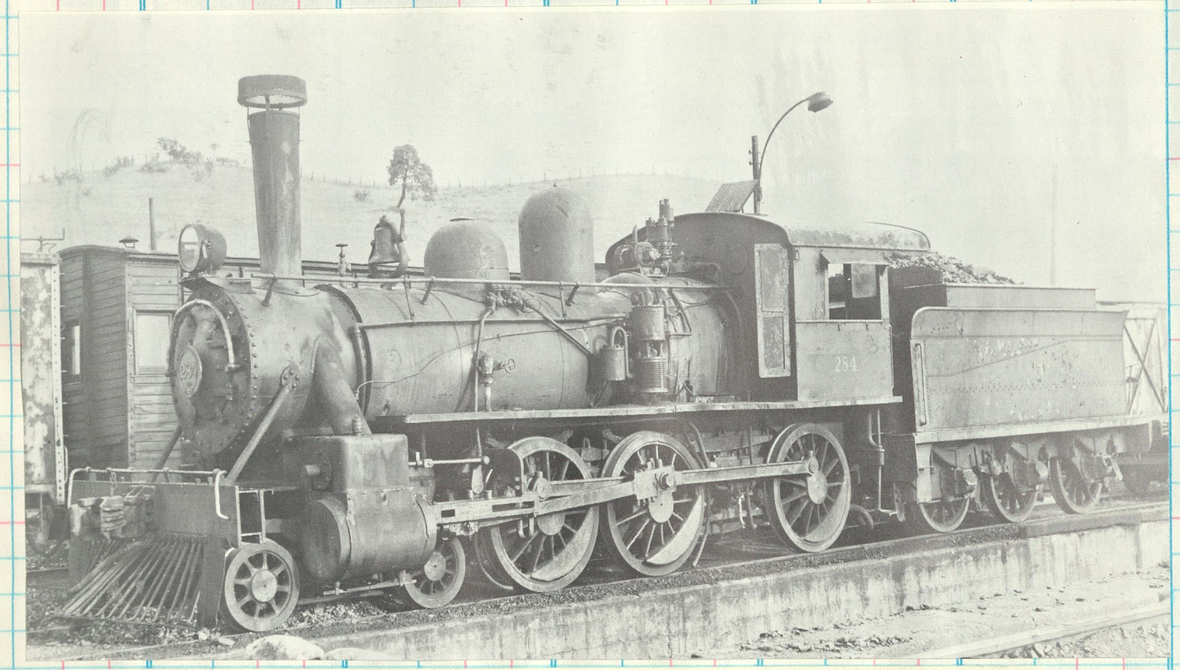
Borsig built fifty of these inside connected 0-6-0's in 1906



Ten wheeler #551 built by Hanomag 1912

F del E #481 2-6-0 Baldwin 1907
c/n 31819

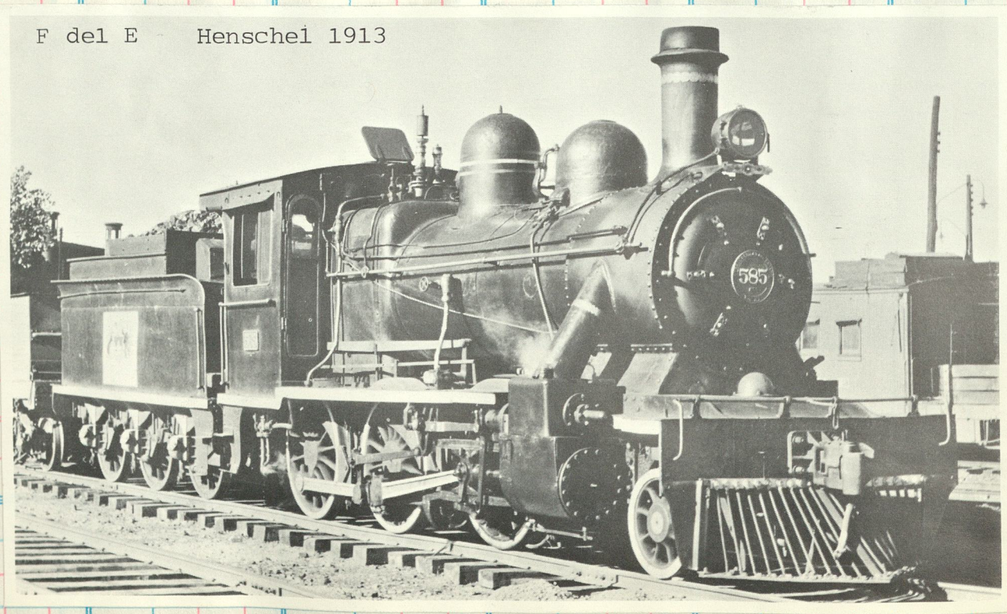




Eight 4-6-0's ordered by the W. R. Grace Co., nos 283-290, (c/n 2749) from Cooke in 1902. These were the last engines to be built by the Cooke Locomotive & Machine Works.

2-6-0 #582, Henschel 1913, accelerating out of Temuco

F del E Henschel 1913



One of the twenty five husky Henschel Moguls

The mile long bridge crossing Bio-Bio River south of Concepcion

78

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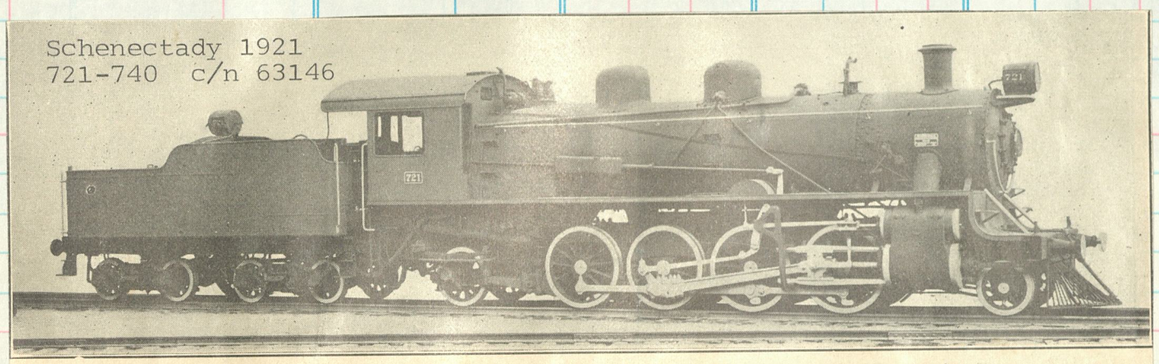
A ten wheeler departs Temuco with an expreso

The 543, a 4-6-0, North British 1908 gets a ride on the "Armstrong" table at Hualqui.

Schenectady 1921
721-740 c/n 63146



Mikado Locomotive Built by American Locomotive Company for the Chilean State Railways

801-812 b1t 1929
c/n 61106

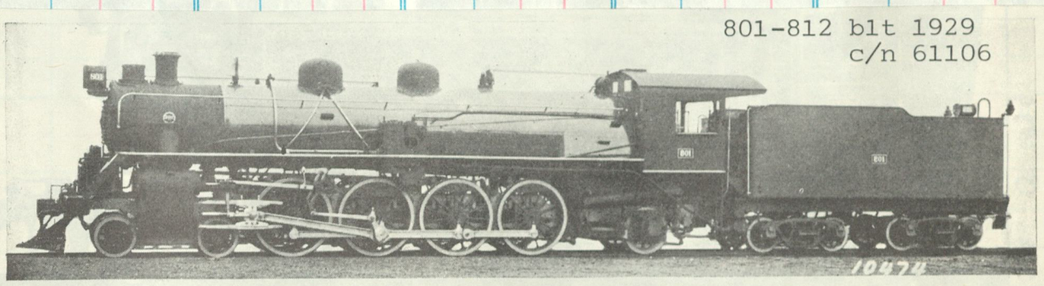
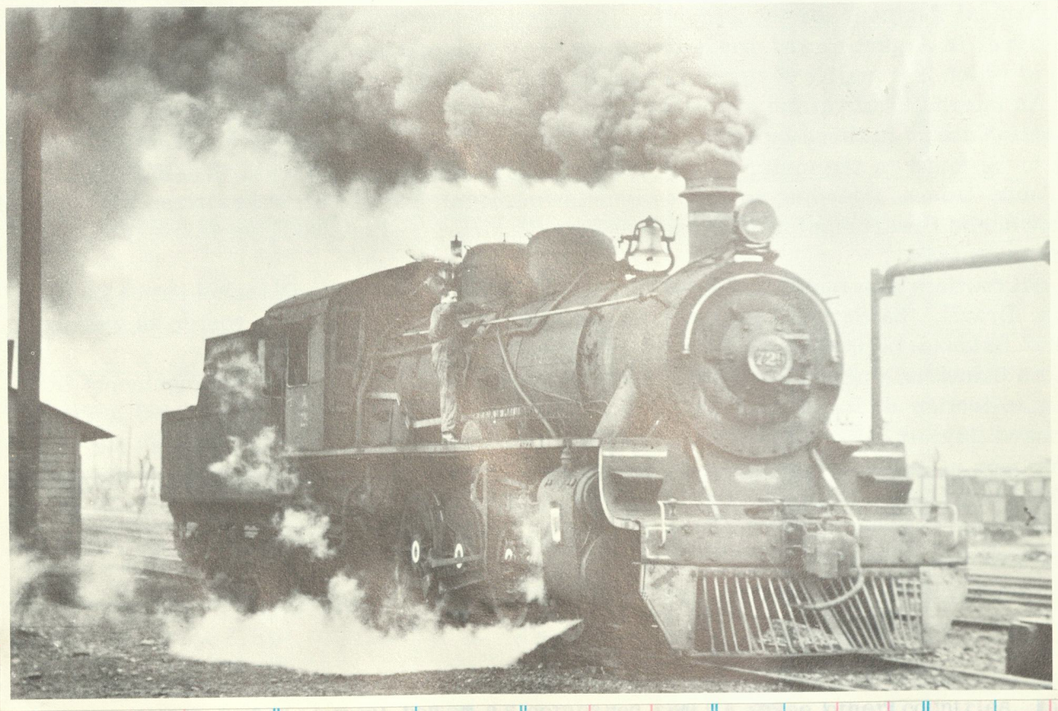


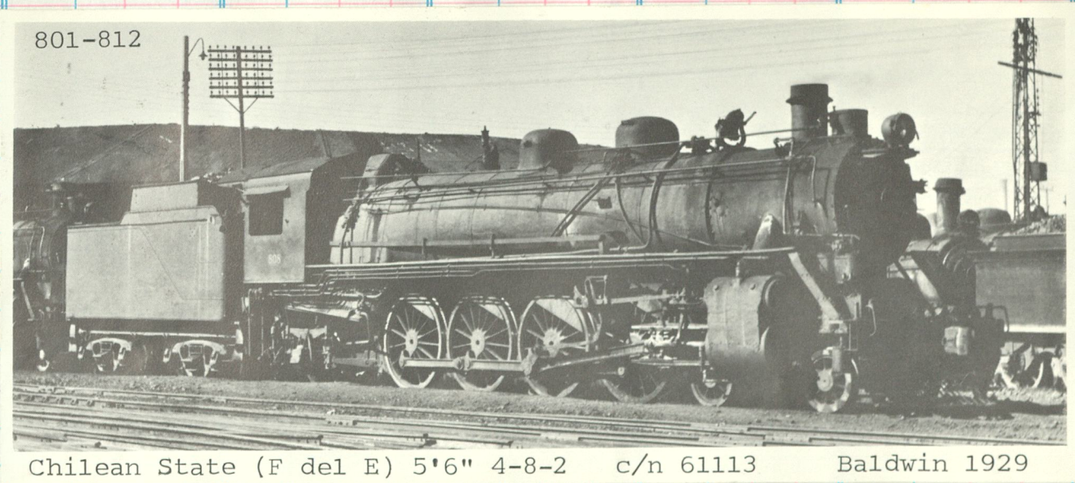
Fig. 3362—Mountain (4-8-2) Type Locomotive, 5 ft. 6 in. Gage, for Passenger and Freight Service. Built for Chilean State Railways by The Baldwin Locomotive Works.

Gage	1,676 mm.	Evaporative heating surface	261.17m²
Cylinders	559 mm. x 711 mm.	Superheating surface	61.96m²
Steam pressure	14.41 kg.	Grate area	4.86m²
Diameter of drivers	1 m. 676	Weight on drivers	66,070 kg.
Tractive force	16,239 kg.	Weight of engine	105,410 kg.
Driving wheel base	5 m. 334	Weight of tender	58,400 kg.
Total wheel base	11 m. 633	Fuel	Soft coal

BELOW: #729, a 2-8-2, gets serviced at Temuco, Chile (photos by R. Scholl 1970)

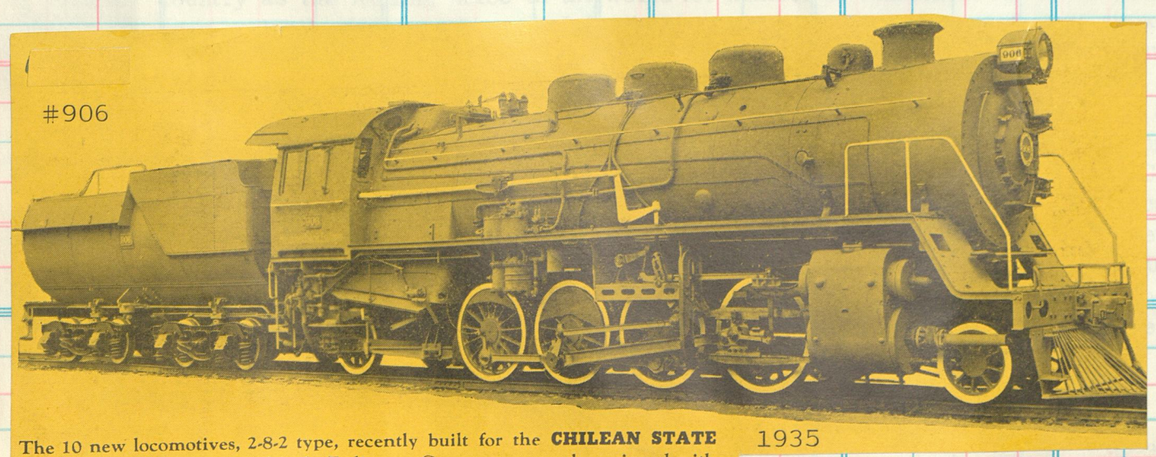


801-812



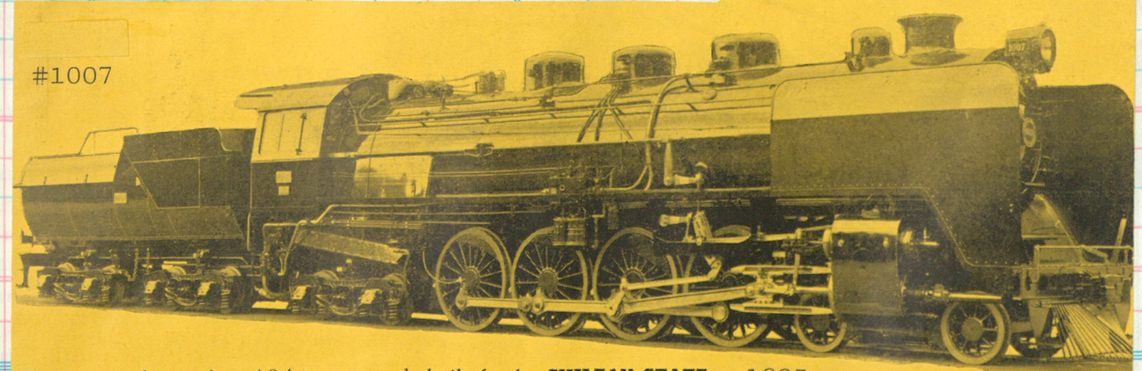
Chilean State (F del E) 5'6" 4-8-2 c/n 61113 Baldwin 1929

#906



The 10 new locomotives, 2-8-2 type, recently built for the **CHILEAN STATE RAILWAYS** by Maschinenfabrik, Esslingen, Germany, are each equipped with two Syphons. Syphons add 62 square feet of direct and radiant heating surface. 1935

#1007

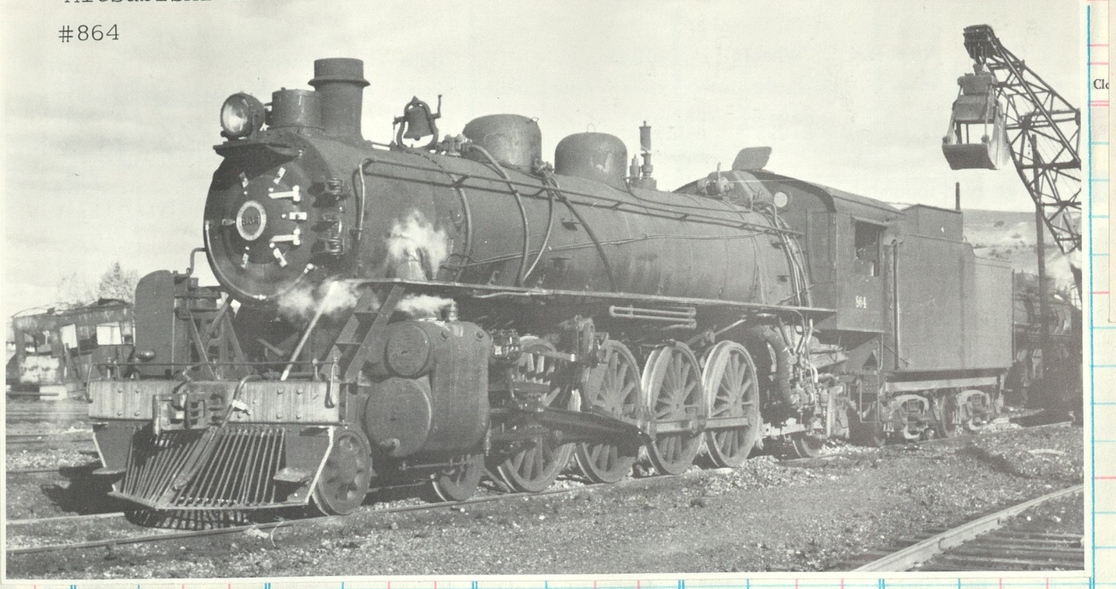


The 10 new locomotives, 4-8-4 type, recently built for the **CHILEAN STATE RAILWAYS** by Henschel & Sohn A.G., Kassel, Germany, are each equipped with two Syphons. Syphons add 72 square feet of direct and radiant heating surface. 1935

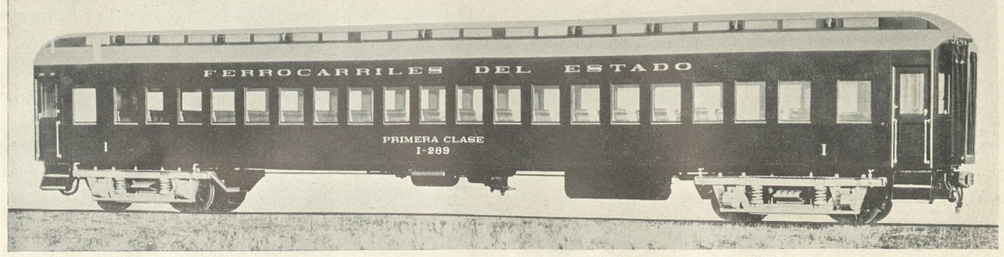
Cles. No. | Sold

Duplicates of the 1929 Baldwin 4-8-2's was ten, 860-869, built by Mitsubishi in 1953.

#864

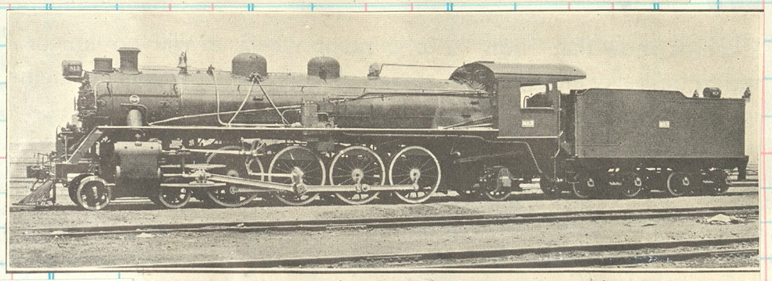


1934

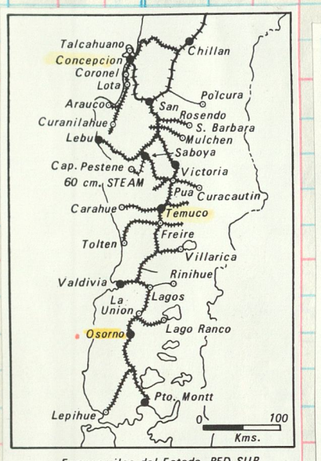


One of the Fifteen First-Class Passenger Coaches Built by the Bethlehem Steel Company for the Chilean State Railways

Length of frame.....65′ 7⅜″
Length over platforms.....74′ 0″
Width, overall .....9′ 8⅛″
Height, overall .....14′ 25/32″
Wheel base, truck centers.....51′ 10″
Gauge of track .....5′ 6″



813-819 c/n 62241 [illegible] Baldwin 1937



Ferrocarriles del Estado RED SUR

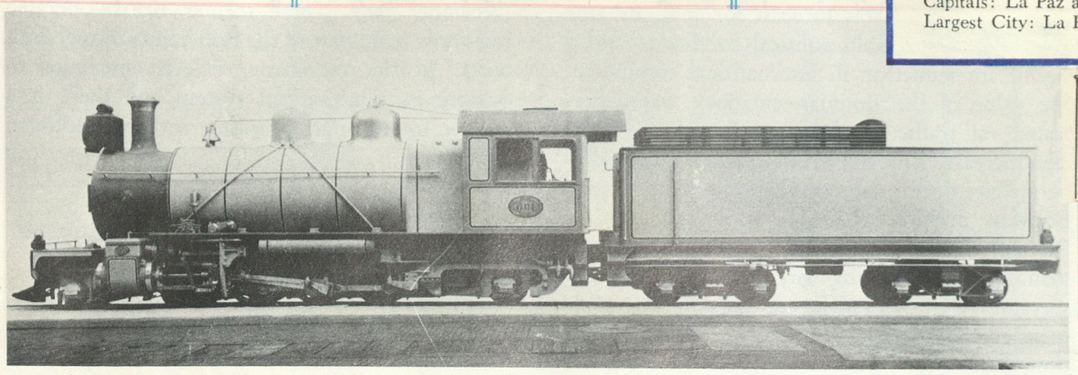
A Henschel Mogul and a Schenectady Mike doublehead tonnage out of Osorno

SELLER
DATE
FORM

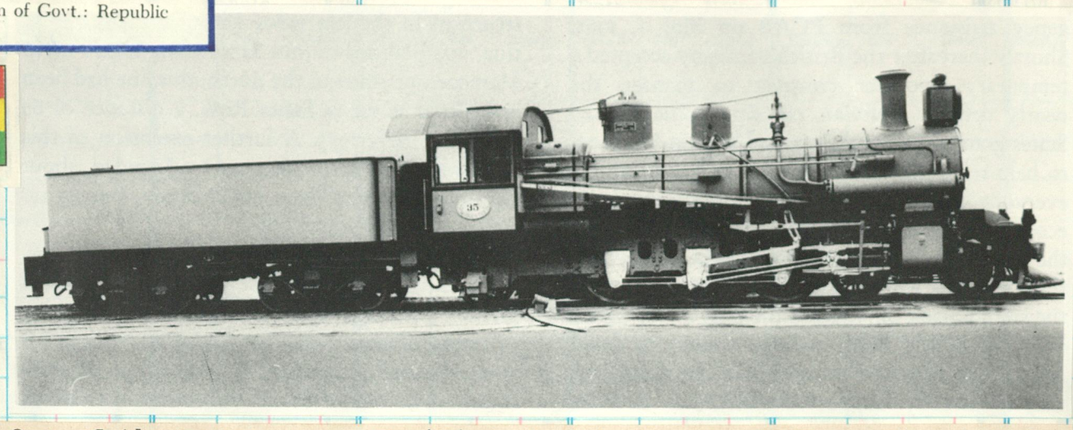
BOLIVIA

Area: 412,777 sq. mi.
Capitals: La Paz and Sucre
Largest City: La Paz

Population: 3,054,000
Monetary Unit: Boliviano
Form of Govt.: Republic

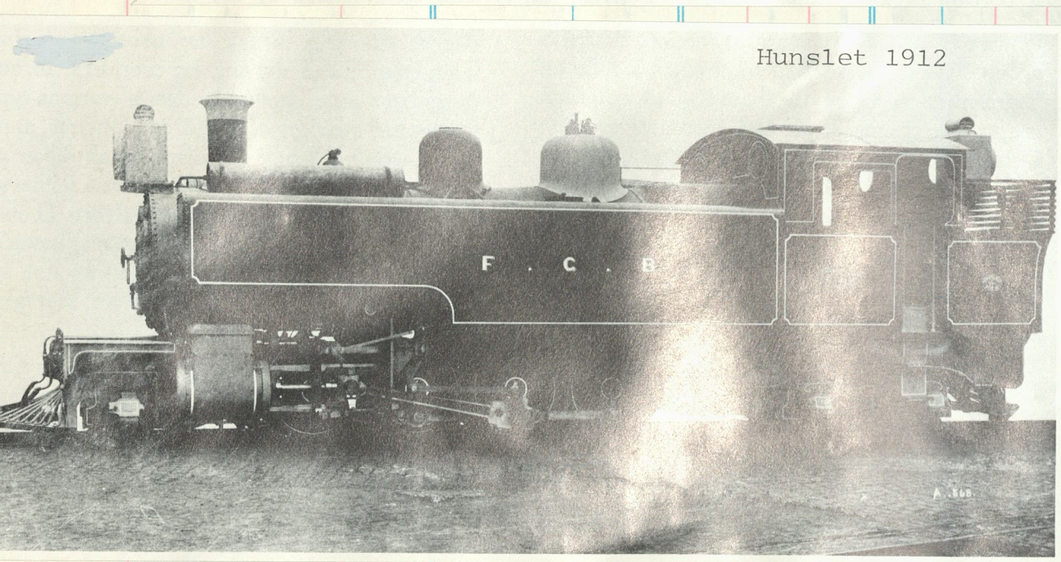


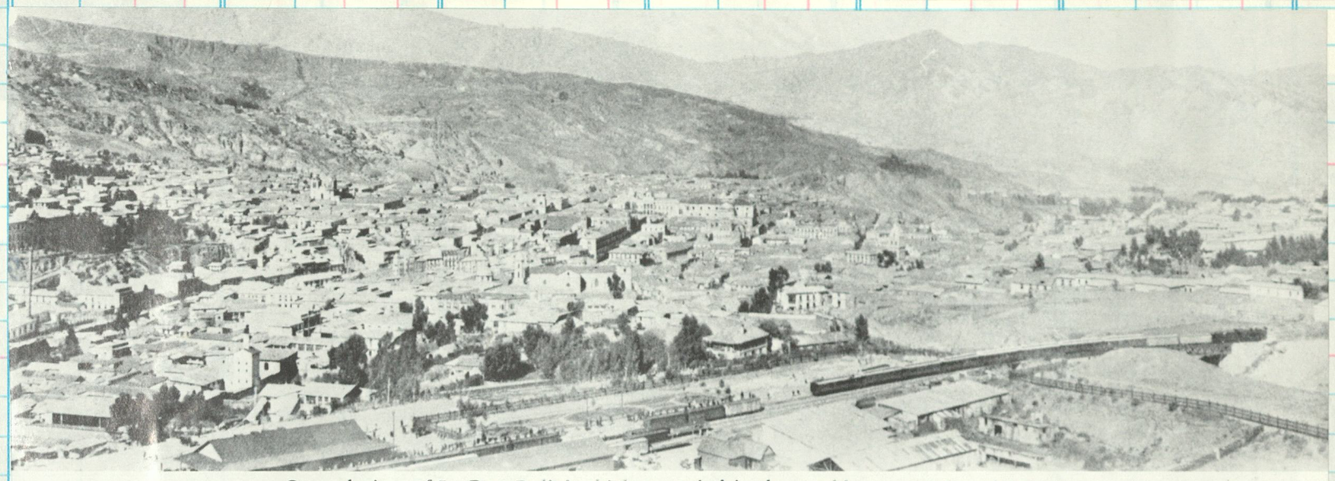
This 2-8-2 locomotive and tender, No. 601, was built for service on the meter gauge rail lines of Bolivia by Kitson & Company, Ltd. in the early 20th century. It had a coal capacity of 10 tons, water capacity was 4500 gallons, and the boiler pressure was 180 pounds per square inch. Full weight was 72 tons. *Courtesy: The Antofagasta & Bolivia Railway Company, Ltd.*



One of the meter gauge Pacific's built for the FCAB by Henschel & Sohn 1914. A left side view of these engines on Page 74.

Hunslet 1912





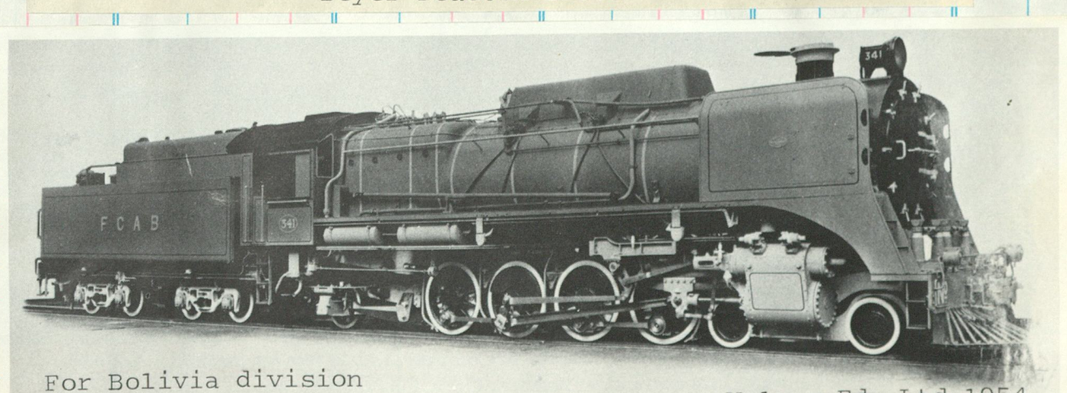
General view of La Paz, Bolivia, highest capital in the world at 12,000 feet above sea level. *Courtesy: Antofagasta & Bolivia Railway Company, Ltd.*

E N FF CC #704, one of three big 2-10-2's built by Baldwin in 1942 [c/n 64619] for the Servicio Ferroviaria de Yacimientos noed 10-12. Later on the F C Atocha-Villazon, then to E N FF CC #704-706.

Ex FCAB #395 "Illimani"
ENFFCC #905 c/n 7422

Six 'double Mountain', 4-8-2=2-8-4, Garratts built by Beyer-Peacock 1950.

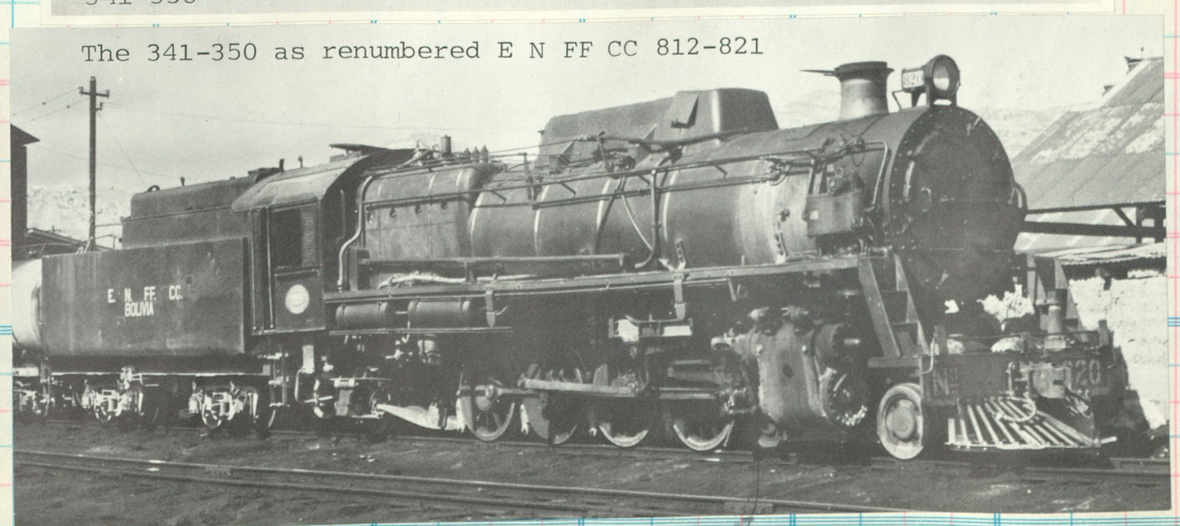
Distant view of the railroad station in La Paz, Bolivia—1930. *Courtesy: The Antofagasta & Bolivia Railway*



For Bolivia division
341-350

Vulcan Fdy Ltd 1954

The 341-350 as renumbered E N FF CC 812-821



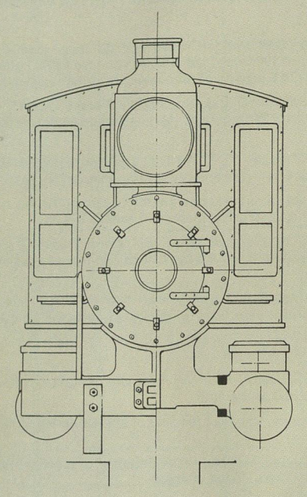
Clas. No. | Sold

PACAMAYO & HUANCHACA RAILWAY

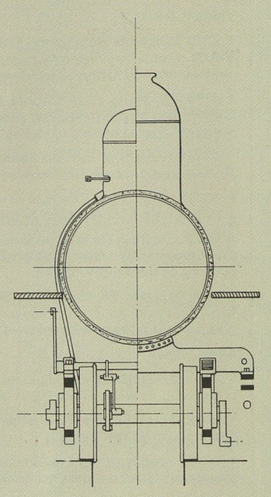
30-INCH GAUGE MOGUL

by Ed Gebhardt

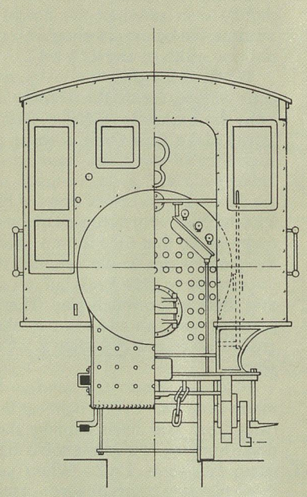
SCALE: ¼ INCH = 1 FOOT



CAB FRONT



CROSS SECTION AT CROSSHEAD GUIDE HANGER



CAB REAR

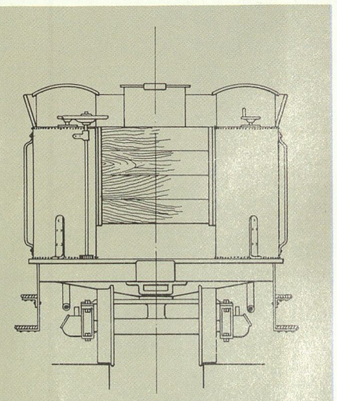
Baldwin built this 30-inch gauge Mogul for the Pacamayo & Huanchaca Railway of Bolivia. It was one of many locomotives built by Baldwin for South and Central American countries. It differed from Moguls built for U.S.A. markets only in lacking a pilot. Instead of the conventional pilot it had two thick iron plates bolted to the pilot beam for the purpose of pushing away foreign objects from the roadbed. All of the other details were strictly U.S.A. — put a pilot on the front end and this engine could have run on any domestic narrow gauge pike.

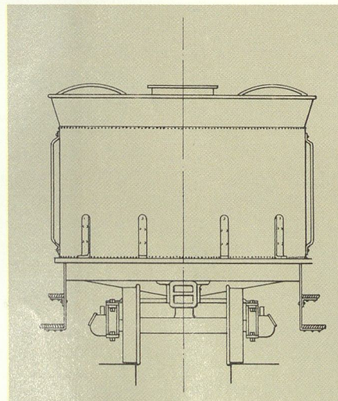
The 1900 Baldwin catalog classifies this engine as a type 8-D with 13- by 18-inch cylinders, 30-inch drivers and a 13 ft. 1-in. rigid wheelbase. Locomotives of the 8-D type were built in three basic styles: 1) with a deep firebox between the middle and rear drivers; 2) with the firebox above the frames and over the rear axle; and 3) with the driving wheels grouped closely together and the firebox entirely behind them. This Mogul was of the first style, a design that allowed for an ample firebox. However, the rigid wheelbase was unusually long for a narrow gauge locomotive. Wheelbases this long can be found on some standard gauge locomotives and could be objectionable for some narrow gauge uses.

Fuel was soft coal and the tender was also of ample proportions: 19 feet long. (The tender on a D&RG C-16 was only 17 ft. 6 in.). The large size of the tender suggests that the Pacamayo & Huanchaca Railway may have had problems getting adequate fuel and water supplies at the refueling sites on the line.

The trucks were Baldwin's equalizer pedestal type and there were no driver brakes. The tender brakes were set by hand through the wheel on the tender deck. At speed this locomotive must have been a sight to behold.

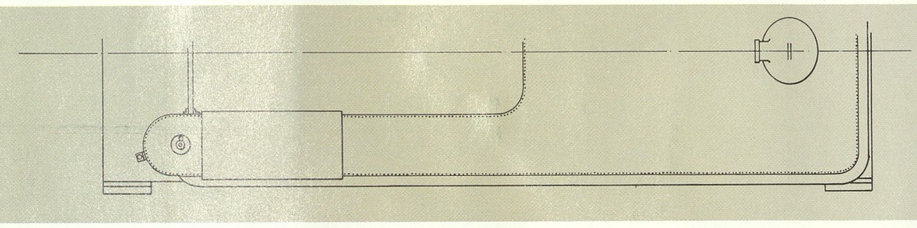
My drawing is based on *Modern Locomotives – 1901* published by the RAILROAD GAZETTE OF NEW YORK in 1901.

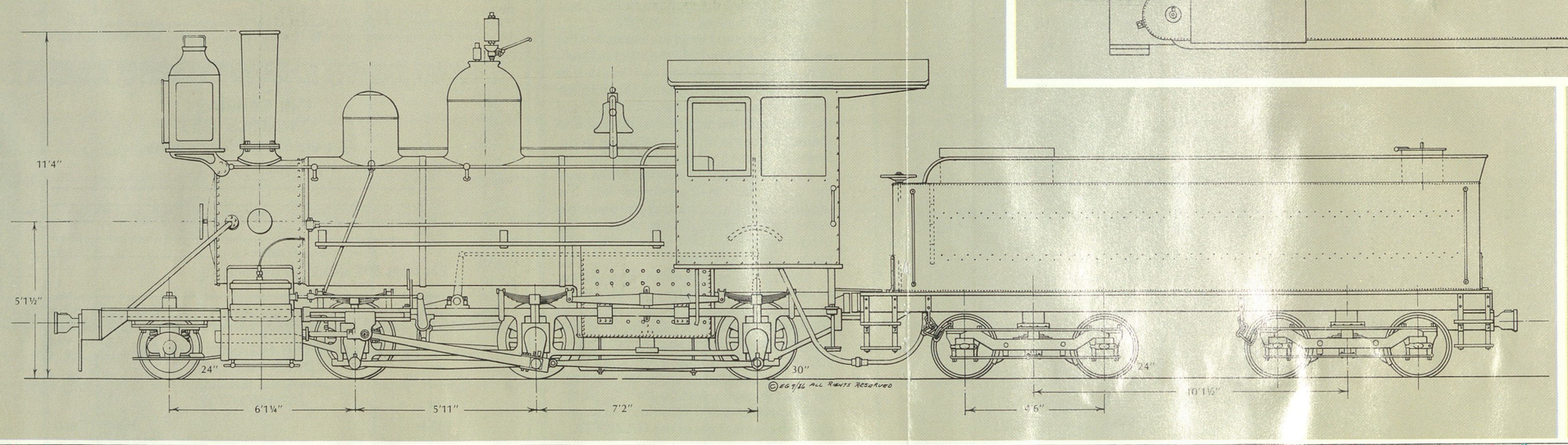


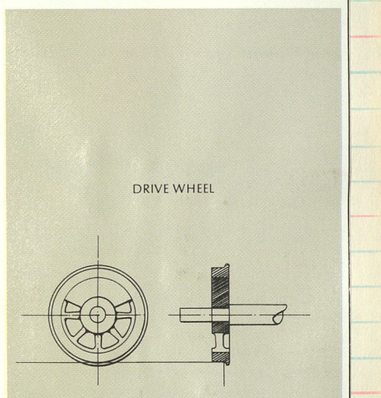


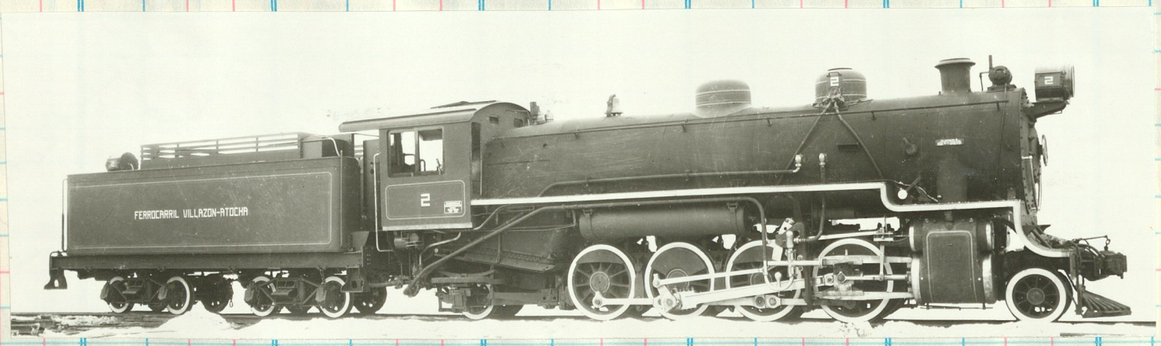
Baldwin 1891
c/n 12363

P. & H. thirty
miles opened
in 1889.









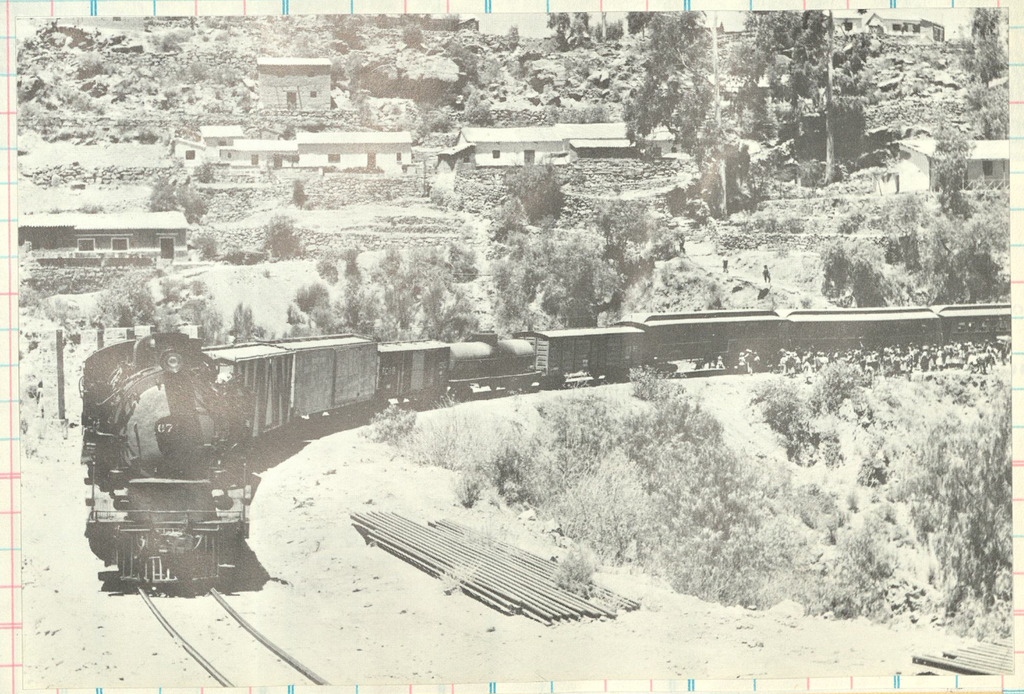
Showing the Barren and Difficult Nature of the Country to Be Traversed

The Atocha-Villazon was a 125 mile line constructed to meter gauge by the Ulen Contracting Co of New York in 1923-25. Mr. J. B.Cameron was Chief Engineer.

Connection was made with the Central North Argentina Ry at Villazon and provided another transcontinental route for South America.

Two Mikes were ordered from Cooke in 1923 [c/n 64215] by Ulen that was used in constructing the road.

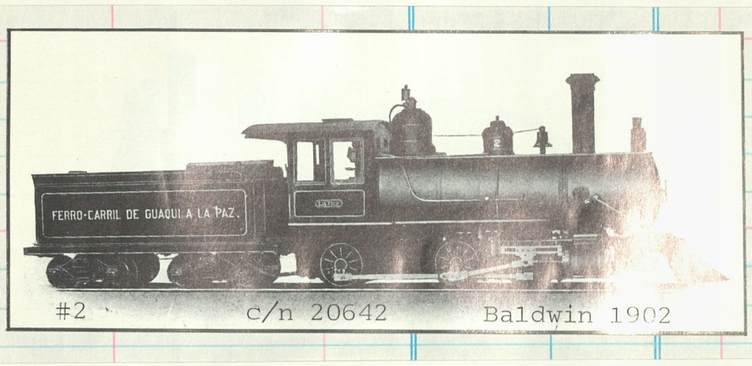
May 1, 1925, will not only be the date on which Bolivia will celebrate the centennial of its independence, but it will also signalize the completion of the railway connection with Argentina.



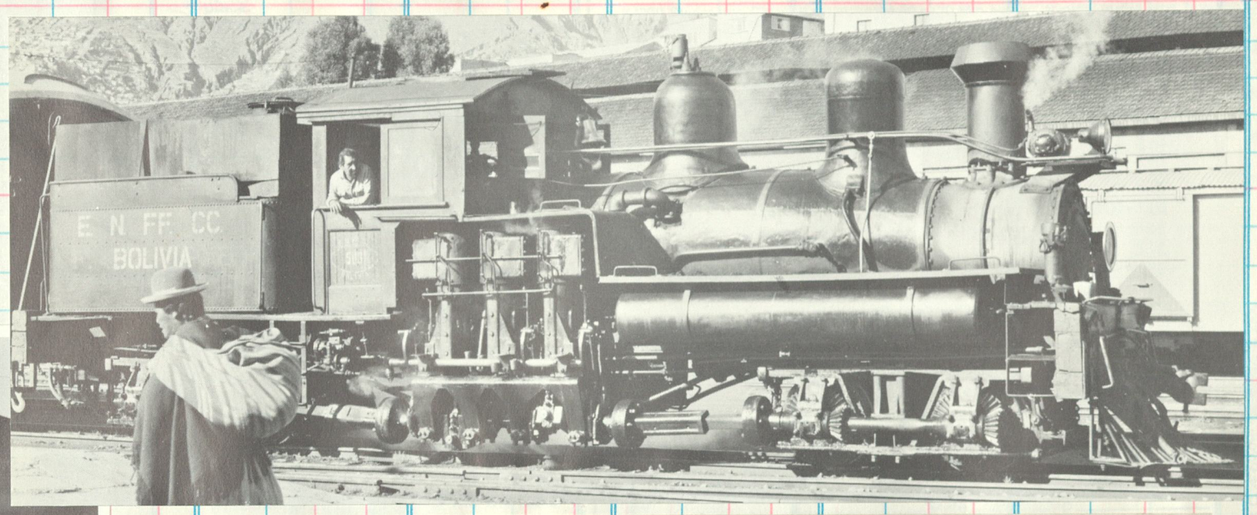
A sizeable crowd greets the arrival of the weekly mixed at the way stop of Vila-Vila on the Atocha-Villazon line. Engine is the 671, one of ten 2-8-2's built by Hitachi in 1958.

Below: Another ex-Belgrano engine at Santa Cruz. This 4-6-0 is no longer found in Argentina although it maintains its Belgrano numbering. The plate on the smoke box shows the Argentine and Bolivian flags.

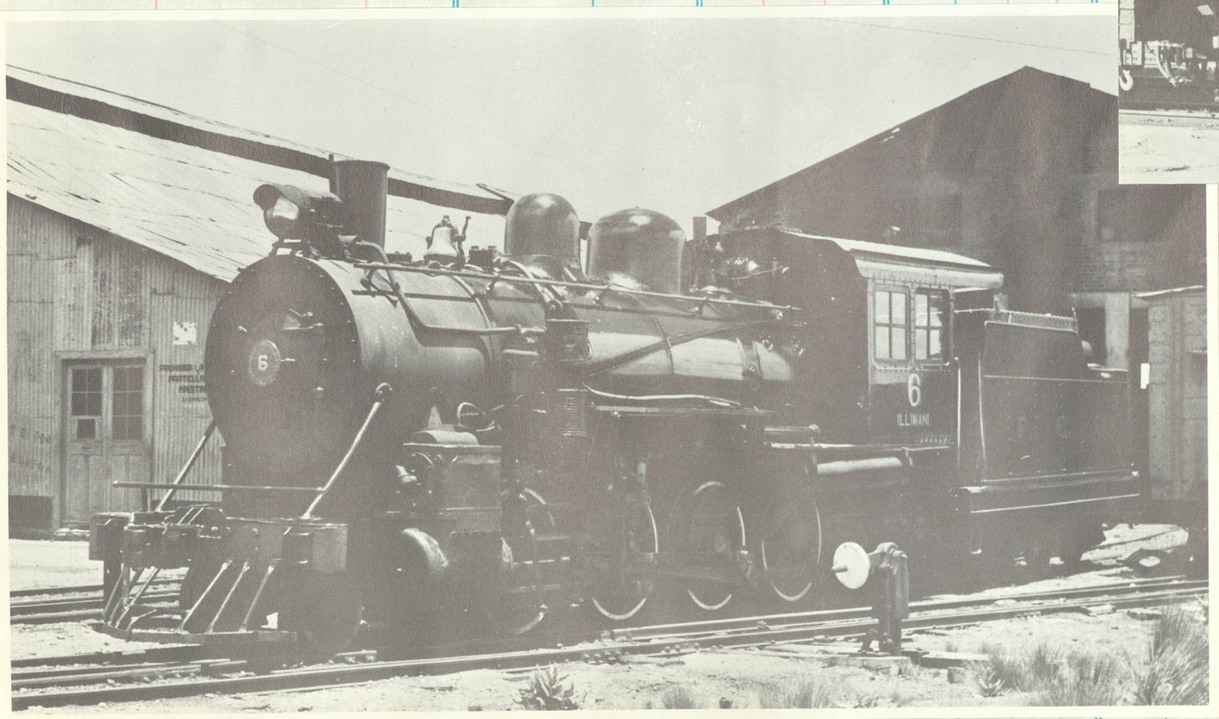
Shunting at Santa Cruz, Bolivia is a former Argentine Belgrano 2-8-2 that is now in the Bolivian National Railways stock and renumbered 688. It is fitted with a Bolivian tender marked FCYSCC which means Ferrocarril Yacuiba-Santa Cruz-Corumbá.



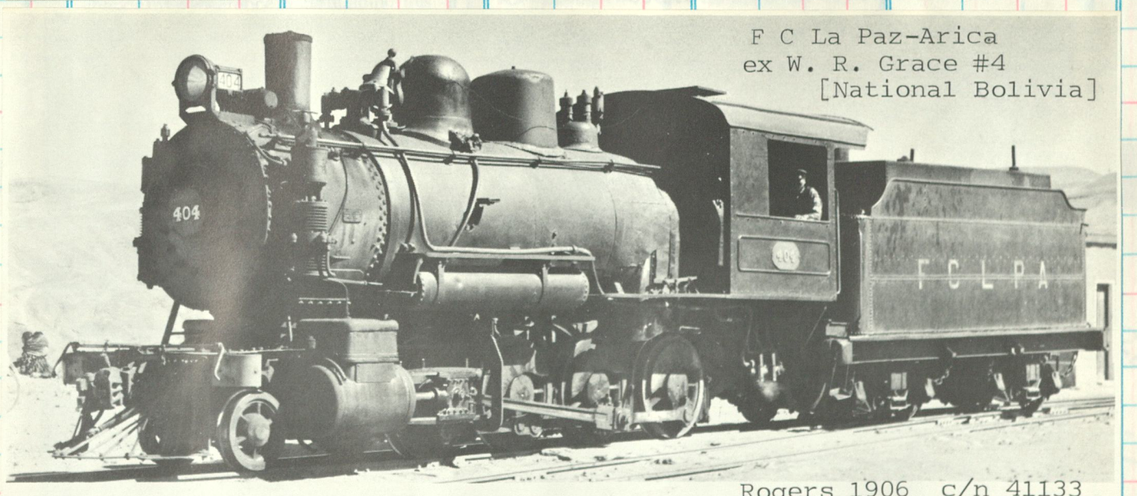
#2 c/n 20642 Baldwin 1902



Shays were not that numerous in South America but one was E N FF CC #508 shown here as a yard engine at LaPaz. Built by LIMA in 1917, c/n 2933, as G. Amsinck & Co. #2. To LaPaz-Yungas, then LaPaz-Beni #508, finally to E N FF CC.



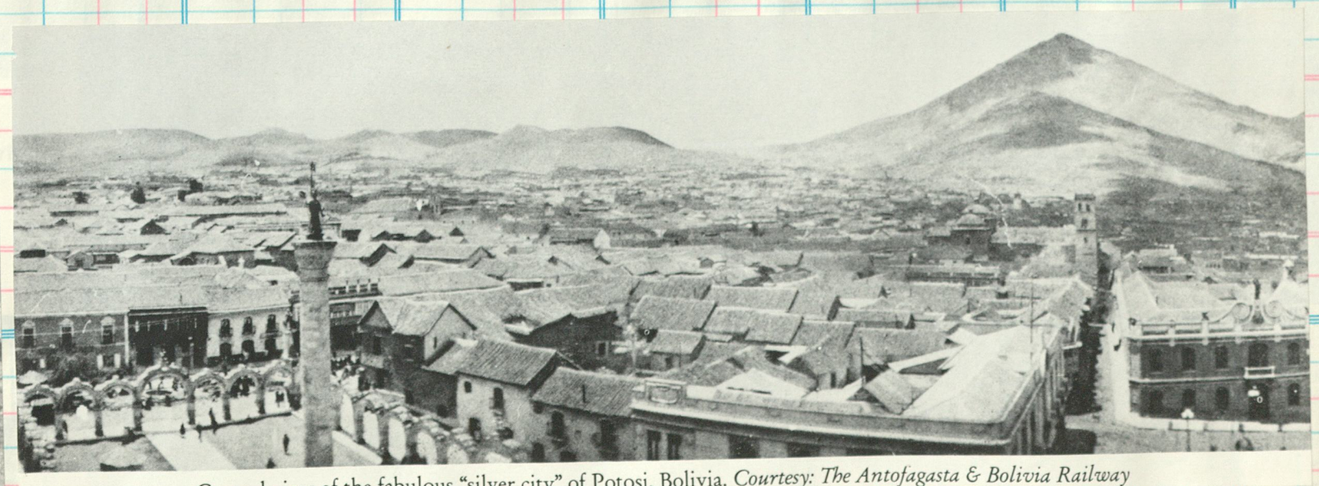
A handsome meter gauge 2-8-0 was the #6 of the F C Guaqui
Built at Schenectady in 1911 c/n 49685



F C La Paz-Arica
ex W. R. Grace #4
[National Bolivia]

Rogers 1906 c/n 41133

Below: S. S. Inca at the Guaquí wharf being loaded by two steam cranes. Six vessels work Lake Titicaca from Guaquí to Puno, Peru.



General view of the fabulous "silver city" of Potosi, Bolivia. *Courtesy: The Antofagasta & Bolivia Railway*

CUT HERE To Make Short Sheet

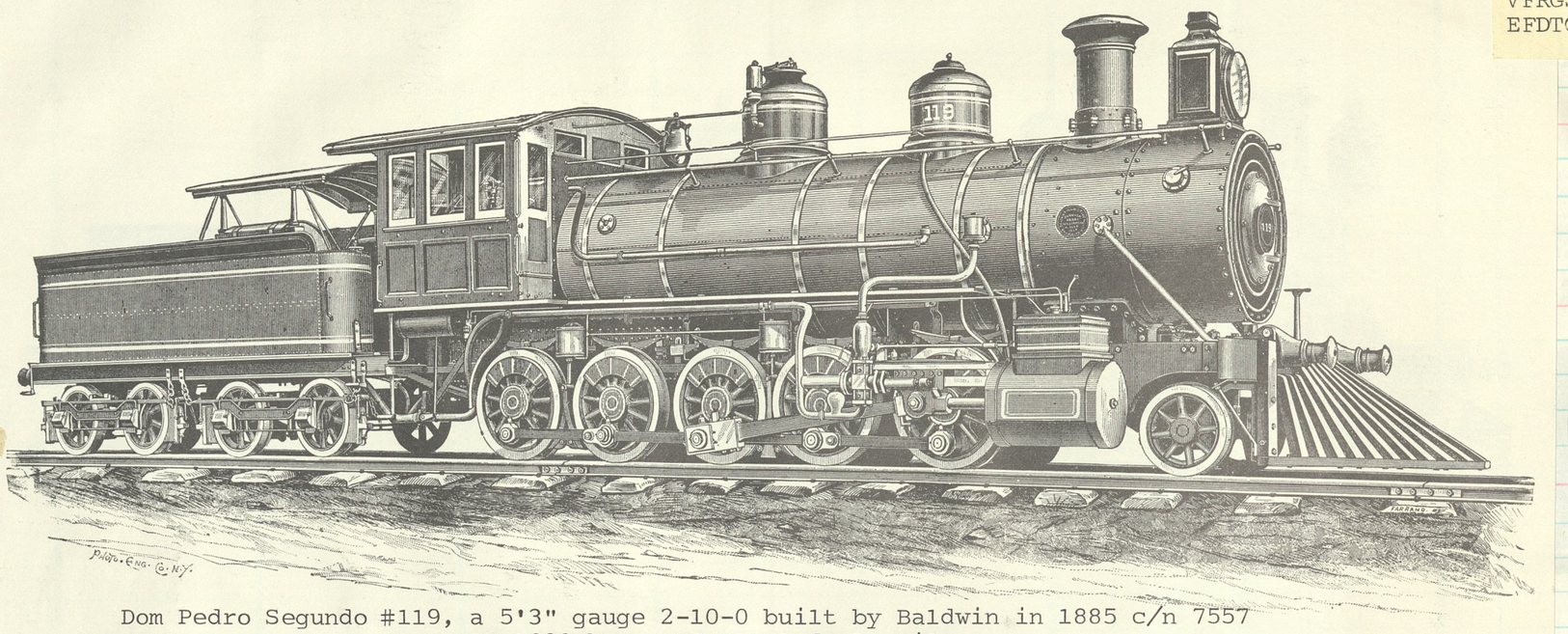
Clos. No.	Sold	Amount	Clos. No.	Sold	Amount

BRAZIL

Area 3,287,842 sq. mi.
Capital: Rio de Janeiro
Largest City: Rio de Janeiro
Population: 53,377,000
Monetary Unit: Cruzeiro
Form of Govt.: Federal Republic

Rede Ferroviaria Federal S. A. [RFFSA] Brazilian Gov't holding company for the following roads: EFB,RVC, EFCB, EFL, RFN, VFFLB, EFMM, EFNOB, RVPSC, VFRGS, EFLCt, EFSJ, EFSLT, EFDTC, VFCO.

1968



Dom Pedro Segundo #119, a 5'3" gauge 2-10-0 built by Baldwin in 1885 c/n 7557
In 1890 became Central do Brazil

EFCB, RFFSA Div 6, in 1968 still operated 103 steam engines. Trackage 1,000 mi of 5'3" and 915 mi of meter gauge. Used 818 passenger and 6738 freight cars on 5'3" and 345 passenger 2877 freight cars on meter gauges.

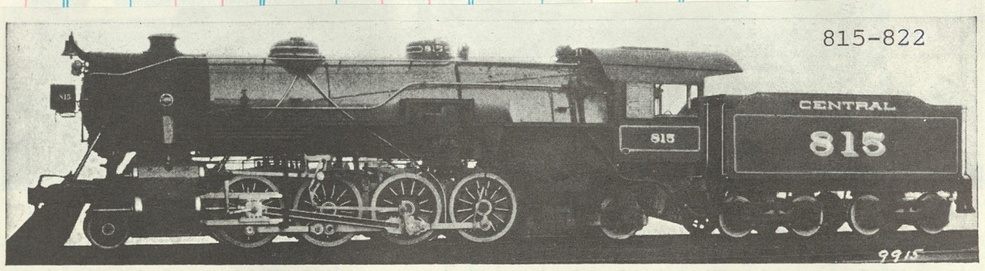
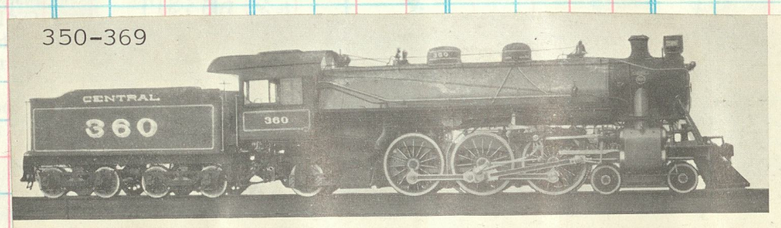


Fig. 3346—Mikado (2-8-2) Type Locomotive for Freight Service. Built for the Central do Brazil by The Baldwin Locomotive Works. 1927 c/n 59743

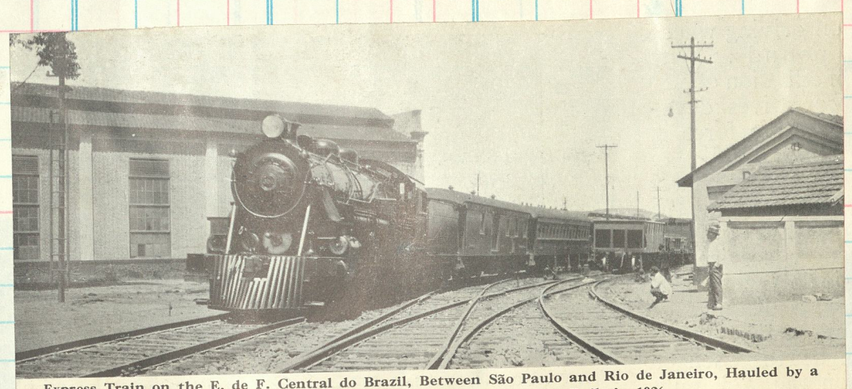
Gage	5 ft. 3 in.	Heating surface	3,024 sq. ft.
Cylinders	23 in. x 28 in.	Superheating surface	721 sq. ft.
Steam pressure	195 lb.	Grate area	79 sq. ft.
Diameter of drivers	57 in.	Weight on drivers	174,500 lb.
Driving wheel base	15 ft. 9 in.	Weight of engine	239,200 lb.
Total wheel base	34 ft. 6 in.	Fuel	Coal



One of the Twenty Baldwin Three-Cylinder Pacific Type Locomotives Built in 1926 for the E. de F. Central do Brazil

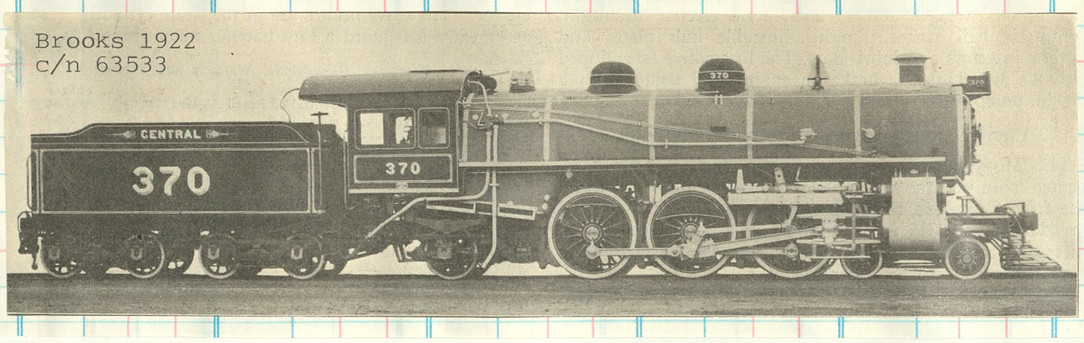
Gauge	5' 3"
Cylinders (3)	19" x 28"
Drivers, diam.	68"
Steam pressure	200 lb.
Grate area	70.2 sq. ft.
Water heating surface	2420 sq. ft.
Superheating surface	555 sq. ft.
Weight on drivers	133,800 lb.
" total engine	221,400 lb.
Tractive force	37,800 lb.
Ratio of adhesion	3.53

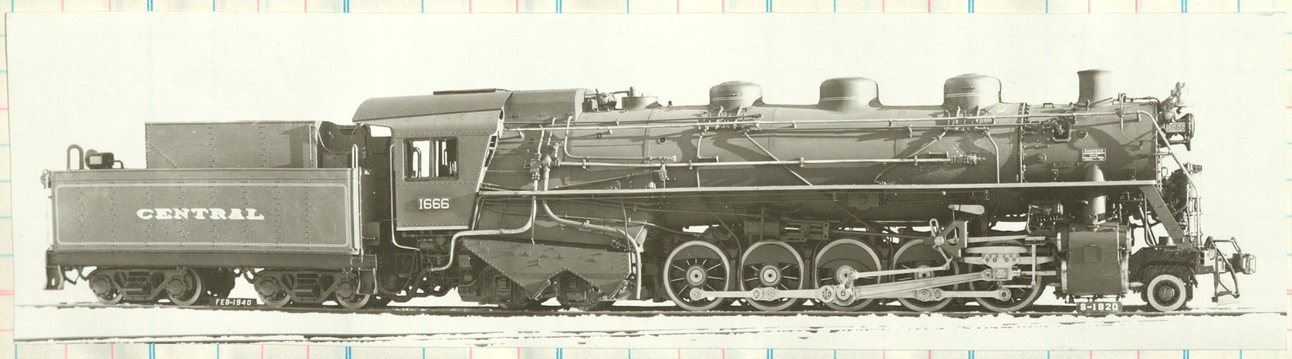
c/n 59723



Express Train on the E. de F. Central do Brazil, Between São Paulo and Rio de Janeiro, Hauled by a Baldwin Three-Cylinder Pacific Type Locomotive Built in 1926

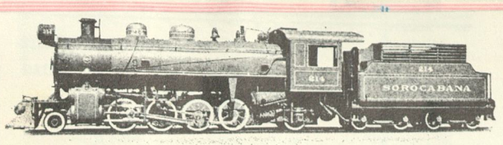
Brooks 1922
c/n 63533





On any gauge the Texas type was big! In 1940 Schenectady erected seven, 1661-1667, 2-10-4's for the Central's METER gauge divisions. #1666 had c/n 69248

84

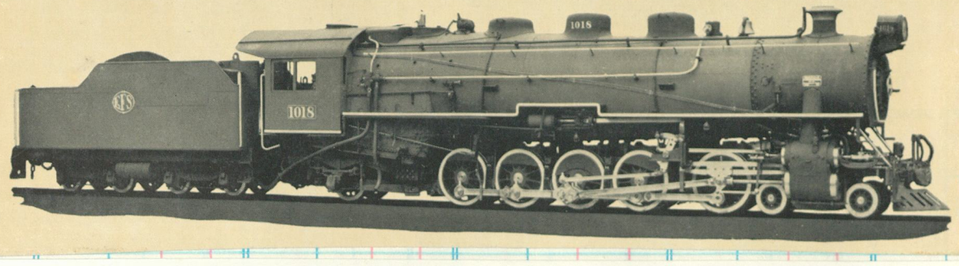


Mikado Type Locomotive
For the Sorocabana Ry., Brazil
Cylinders, 19" x 20" Driving Wheels, Diam., 41¾" Weight, Total Engine, 127,000 lb.

214-221 c/n 55011 Baldwin 1921

Clos. No. Sold Amount

E. F. SOROCABANA (Brazil)



The final steam engines to be built by ALCO [Montreal] was six 4-8-2's for E. F. Sorocabana noed 351-356, c/n's 77644-77649, delivered in 1950.

The fourth order for three cylinder meter gauge 4-10-2's was delivered by Schenectady in 1939. Noed 1015-1018 c/n 69140.

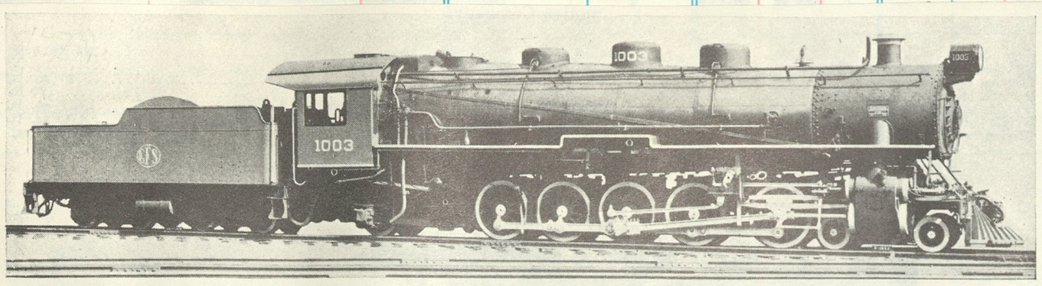
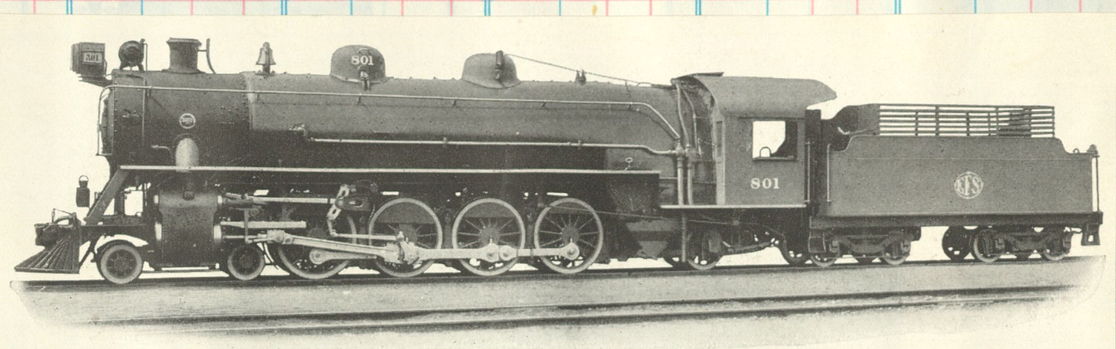


Fig. 3334—Three-Cylinder 4-10-2 Type Locomotive Built by Alco for the Sorocabana Railway of Brazil

1001-1005 c/n 67998 Schenectady 1929

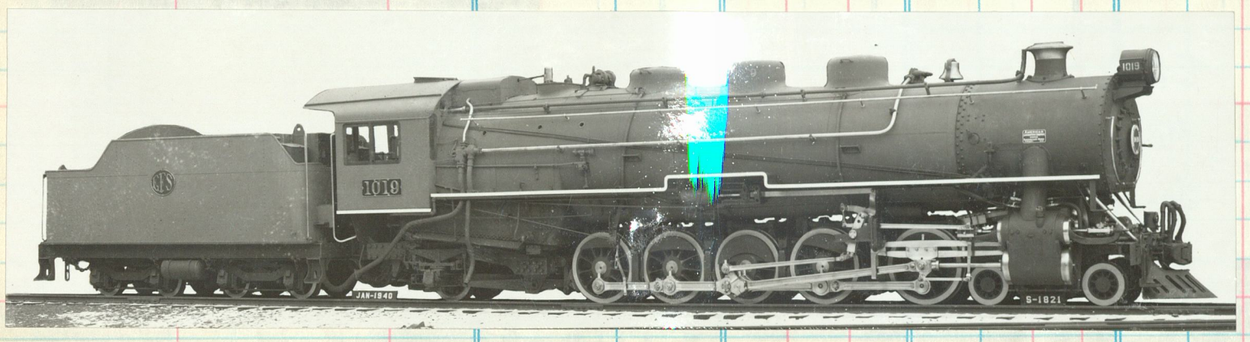
Gage	3 ft. 3⅜ in.	Boiler Pressure	210 lb.
Tractive Force	44,500 lb.	Heating Surface, Firebox	253 sq. ft.
Weight, Total	232,000 lb.	Heating Surface, Tubes and Flues	3,008 sq. ft.
Weight on Drivers	176,000 lb.	Heating Surface, Total	3,261 sq. ft.
Cylinders	18½ in. x 22 in. (Inside) x 24 in. (Outside)	Heating Surface, Superheater	857 sq. ft.
Driving Wheel Diameter	48 in.	Grate Area	55.5 sq. ft.



801-805 c/n 59310 Baldwin 1926

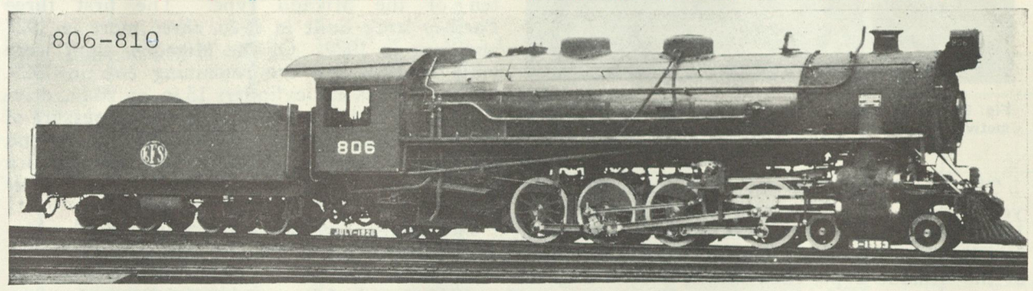
Three Cylinder Mountain Type Locomotive, Built for the E de F, Sorocabana, Brazil

Gage	3 ft. 3⅜ in.	Evaporative heating surface, total	3,088 sq. ft.
Cylinders (three)	20 in. x 22 in.	Superheating surface	863 sq. ft.
Steam pressure	202 lb.	Grate area	52.2 sq. ft.
Diameter of drivers	54 in.	Weight on drivers	137,300 lb.
Tractive force	42,000 lb.	Weight of engine	203,000 lb.
Driving wheel base	15 ft. 0 in.	Weight of tender	82,800 lb.
Total wheel base	34 ft. 2 in.	Fuel	Wood or Cardiff Coal



The last group was four engines noed 1019-1022 constructed at Schenectady in 1940. c/n 69250. This made a total of twenty two of these handsome meter gauge 4-10-2's on the Sorocabana roster.

The EFS operated 1,779 miles of meter gauge in 1968 along with 94 steam engines, 485 passenger and 9,092 freight cars.



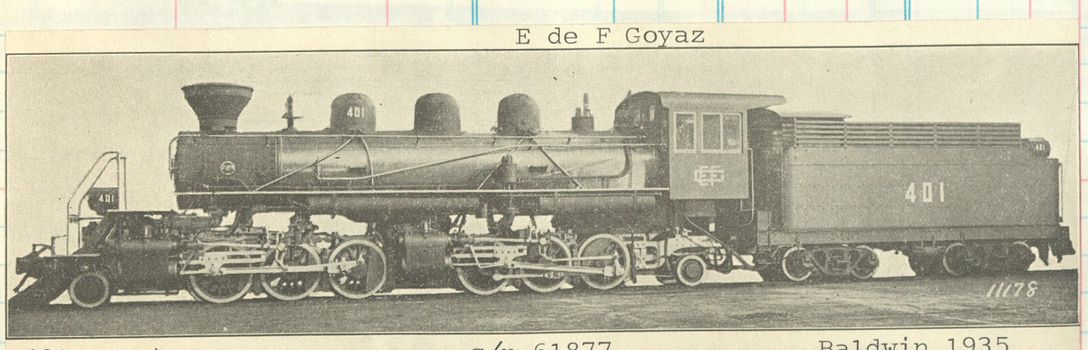
806-810

Fig. 3345—Three-Cylinder Mountain (4-8-2) Type Locomotive Built for the Sorocabana Railway, Brazil, by the American Locomotive Company. c/n 66979 Schenectady 1926

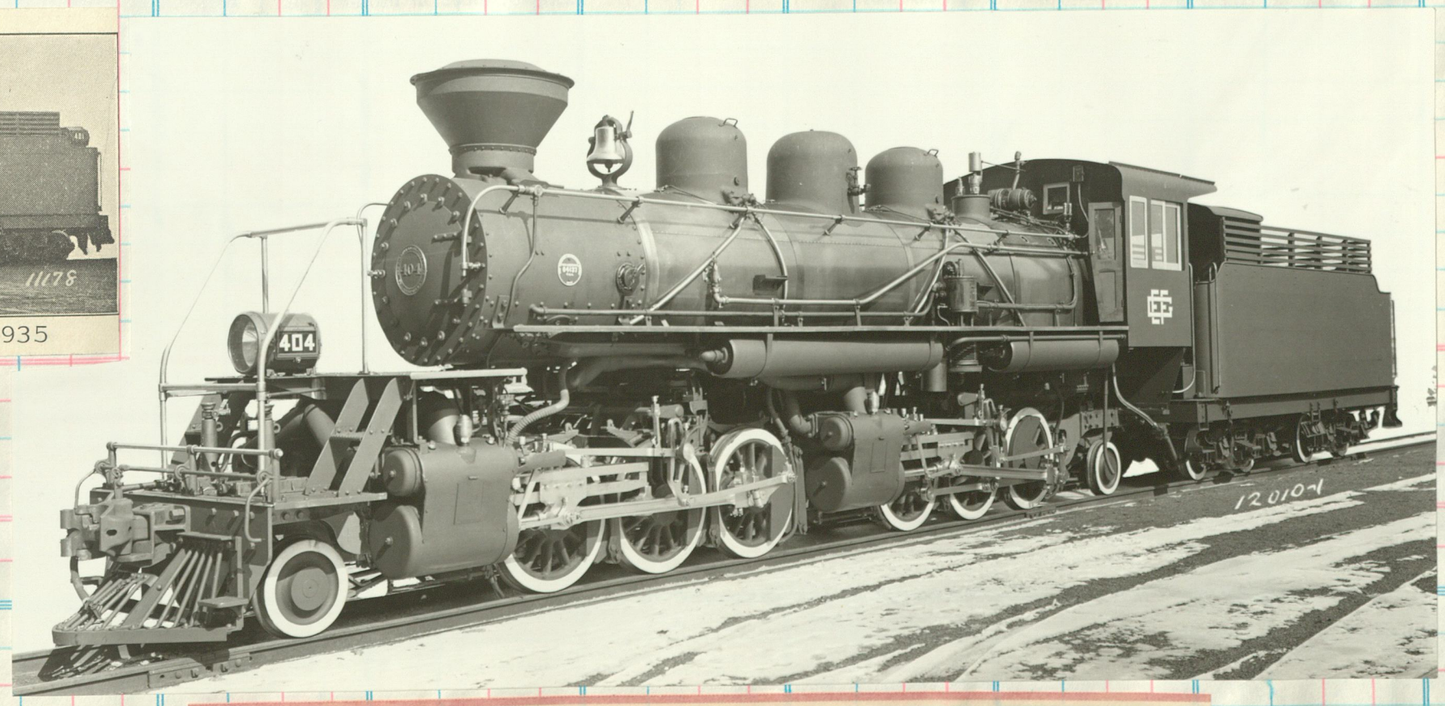
Gage	3 ft. 3⅜ in.	Boiler pressure	200 lb.
Tractive force	42,400 lb.	Heating surface, firebox	173 sq. ft.
Weight, total	199,000 lb.	Heating surface, tubes and flues	3,006 sq. ft.
Weight on drivers	137,500 lb.	Heating surface, total	3,179 sq. ft.
Cylinders	18½ in. x 22 in. (Inside) x 24 in. (Outside)	Superheating surface	856 sq. ft.
Driving wheel diameter	48 in.	Grate area	49.2 sq. ft.

E de F de GOYAZ

E de F Goyaz



401 meter gauge c/n 61877 Baldwin 1935



Three more from Baldwin, nos 403-405, in 1940. c/n 64137

Paulista Railway

Clos. No.	Sold	Amount	Clos. No.	Sold	Amount

FEPASA

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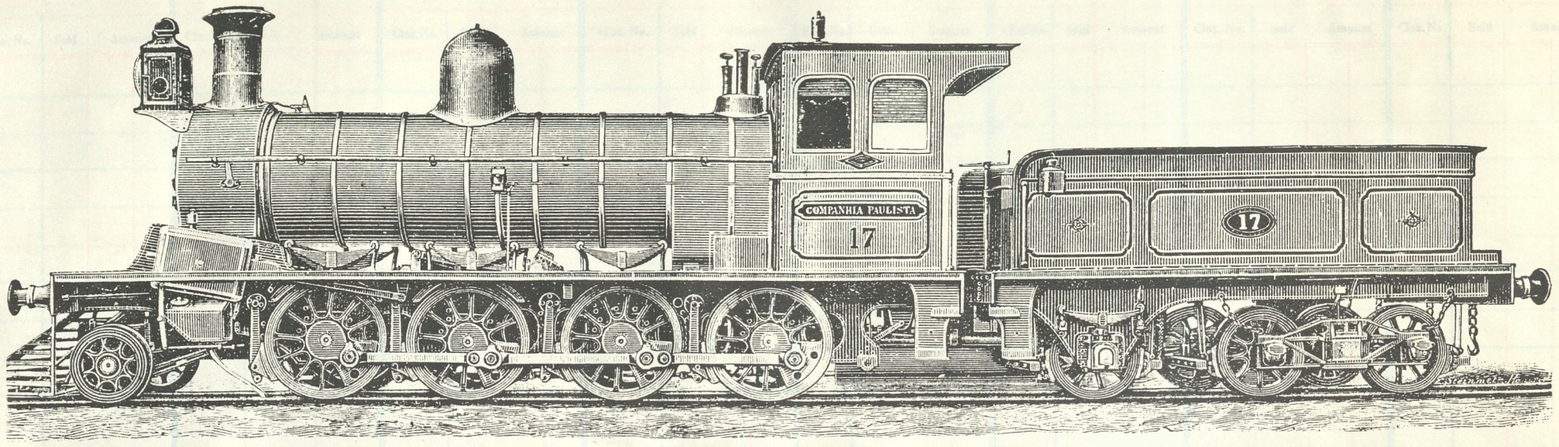
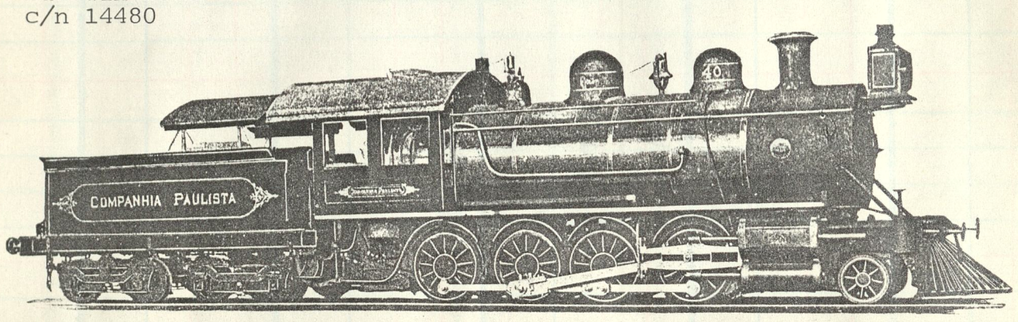
Gauges 5'3" and Meter

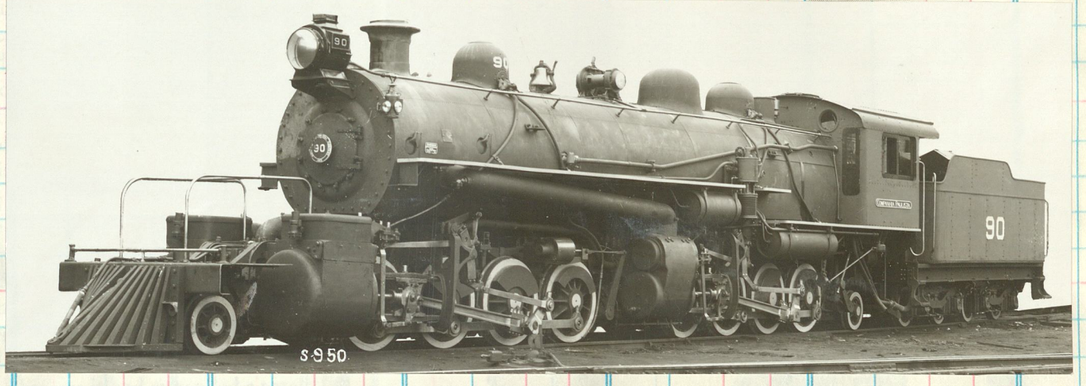


Companhia Paulista #17, an inside connected Consolidation built by Dubs (Scotland) in 1884

One of the largest engines ever built for meter gauge. #90, 2-8-8-2, constructed by Schenectady in 1913. c/n 53133

Baldwin 1895
c/n 14480





90-93 Brooks 1917
c/n 56966

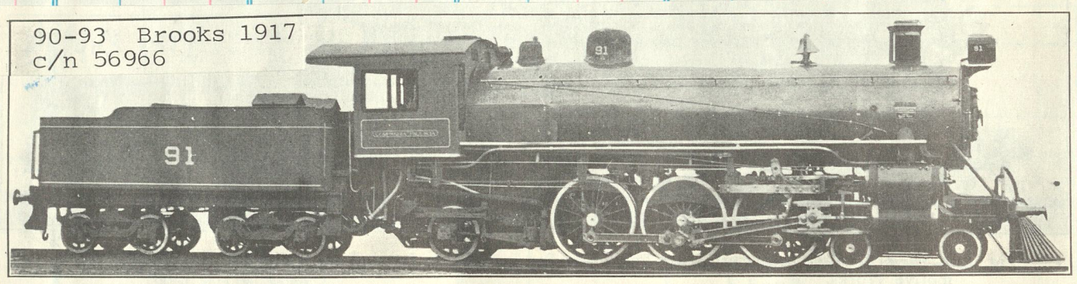
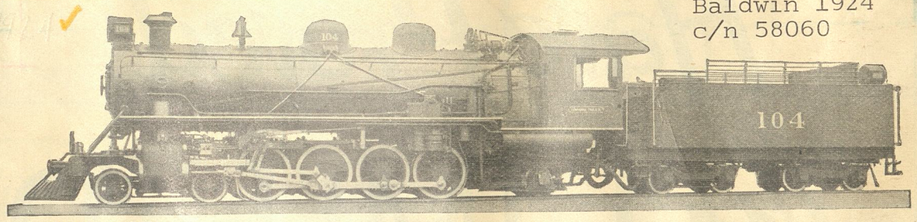


Fig. 129—Pacific (4-6-2) Locomotive for Passenger Service. Built for Paulista Railway of Brazil by the American Locomotive Company.

Gage	5 ft. 3 in.	Heating Surface, Tubes	2,950 sq. ft.
Cylinders	23 in. x 26 in.	Heating Surface, Firebox	212 sq. ft.
Steam Pressure	185 lbs.	Heating Surface, Total	3,162 sq. ft.
Diam. of Drivers	66 in.	Heating Surface, Superheater	725 sq. ft.
Tractive Effort	32,800 lbs.	Grate Area	46.3 sq. ft.
Rigid Wheel Base	11 ft. 6 in.	Weight on Drivers	133,000 lbs.
Driving Wheel Base	11 ft. 6 in.	Weight, Total	223,000 lbs.
Total Wheel Base	31 ft. 7 in.	Fuel	Soft coal

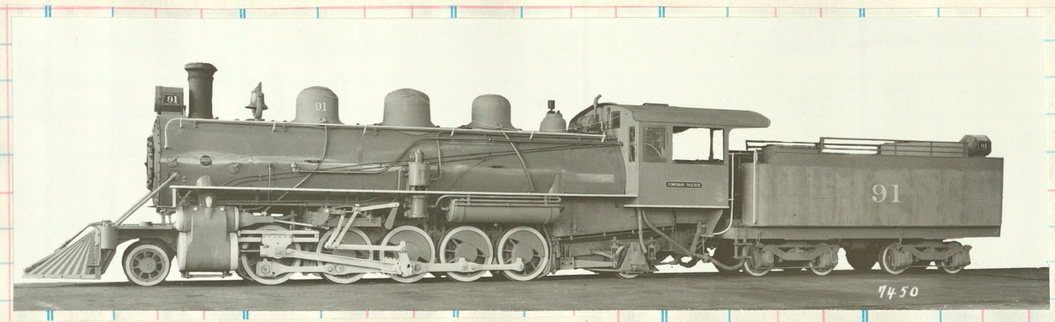
Baldwin 1924
c/n 58060



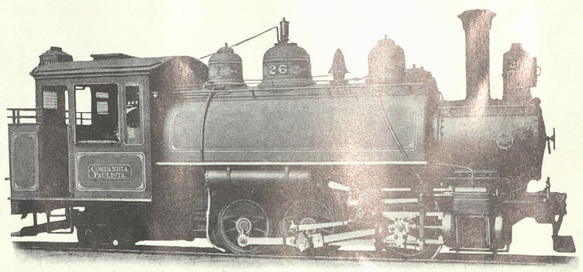
104-107

BUILT FOR PAULISTA RAILWAY COMPANY, BRAZIL

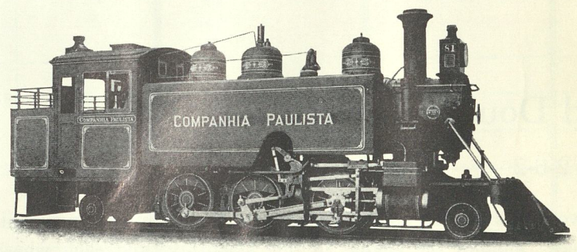
Gauge, 3' 3⅜"
3 Clyinders, 17"x22"
Working pressure, 202 lb.
Driving wheels, diameter, 48"
Tractive force, 34,100 lb.
Weight, total engine, 171,500 lb.
Weight, engine and tender, 268,300 lb.
Ratio of adhesion, 3.4.



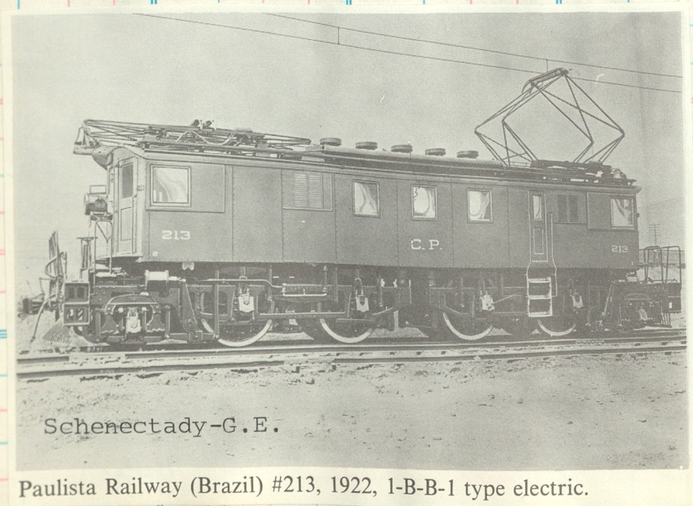
Six meter gauge Santa Fe's delivered by Baldwin in 1920. Nos 91-96 c/n 53061



#26 c/n 39195 Baldwin 1913

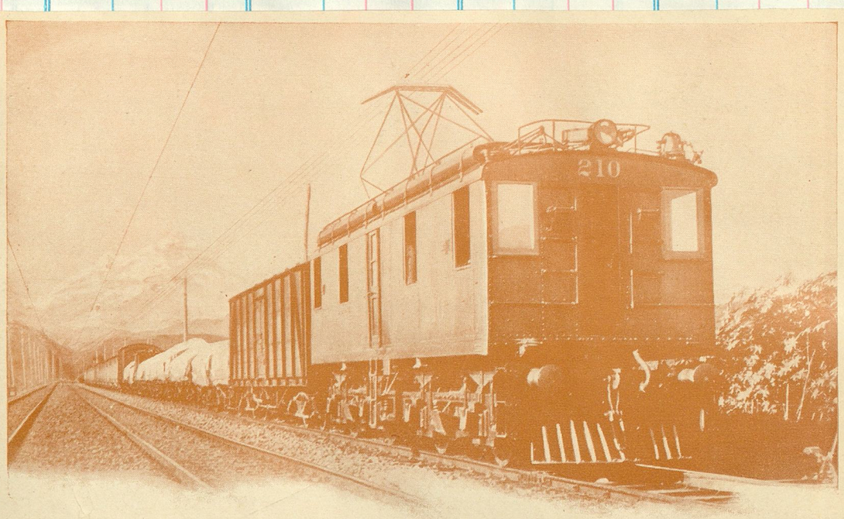


c/n 37558 (?) Baldwin 1913



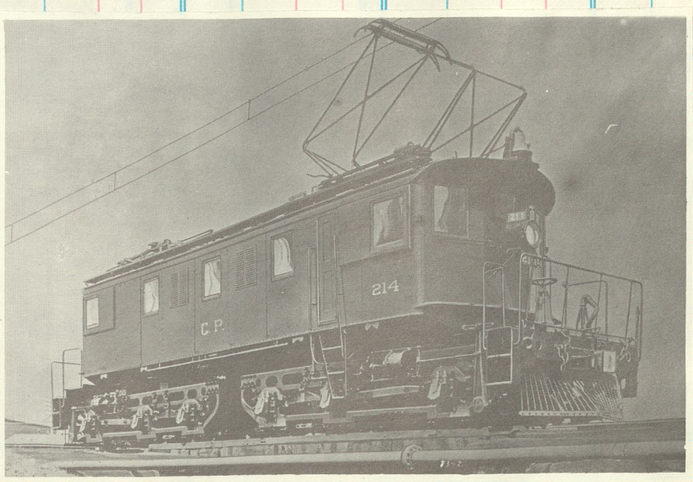
Schenectady-G.E.

Paulista Railway (Brazil) #213, 1922, 1-B-B-1 type electric.



1925

The Paulista Railway in Brazil started electrification with 27 miles of track, and 12 locomotives with G-E motors. So efficient did they prove that 35 more miles have been electrified, and the General Electric Company has furnished more locomotives and substation equipment.



Paulista Railway (Brazil) #214, 1922, 1-B-B-1 type electric.

86

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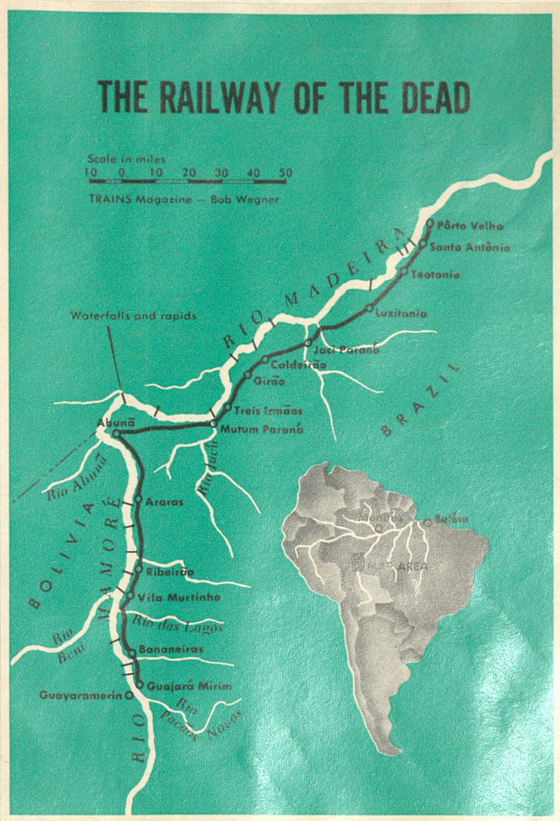
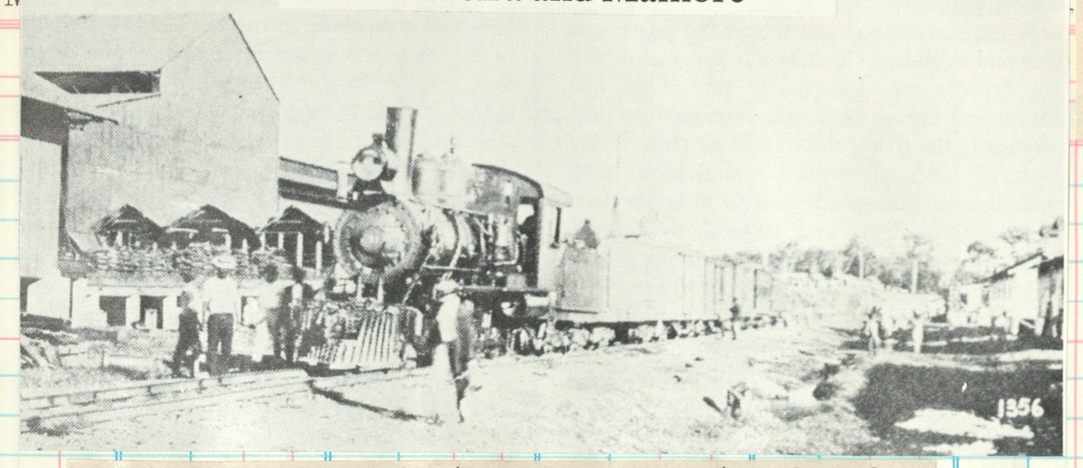
FORM



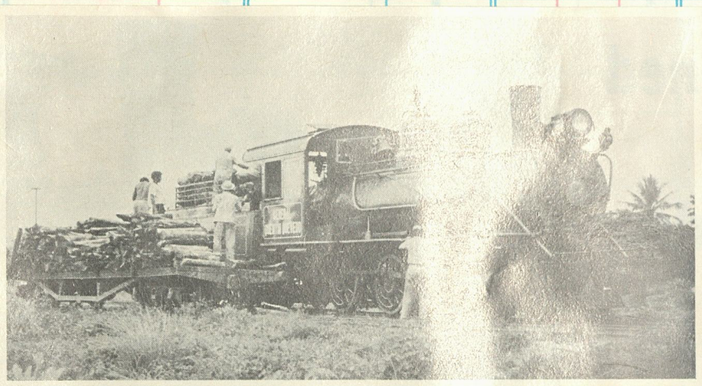
Madeira and Mamore



In 1968 the EFMM was still 100% steam operated with ten engines. Also had 77 freight and 7 passenger cars.

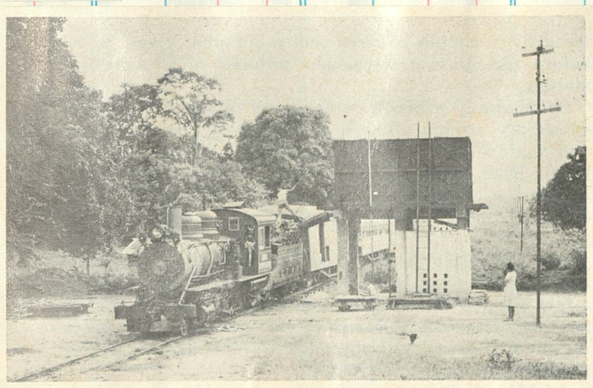
The "Mad Mary"- a 228 mile meter gauge line through the jungles of northwest Brazil built to by pass the rapids of the Maderia and Mamore rivers. Construction was started in 1876 but was not completed until June 1912.

Open-shed type of railroad station on the Madeira–Mamora Railway, which connects northeastern Bolivia with far western Brazil. This is an early 20th century photograph. *Courtesy: Pan American Union.*

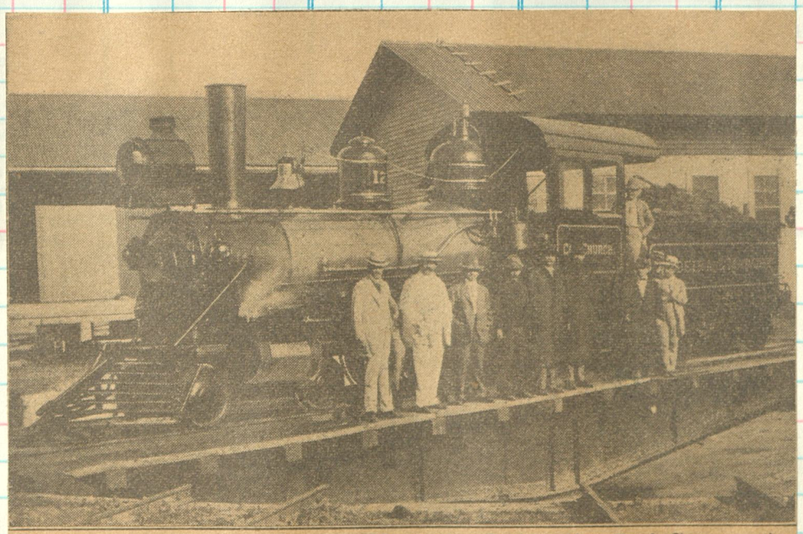


THE General Quentin Quevedo — 2-6-0 No. 7 — had an insatiable appetite for wood and water, and feeding stops were not simple or swift. At Jaci Paraná November 1967 a crew tackles the timber pile at lineside and stacks the fuel neatly in the tender of No. 7.

#7 one of six Moguls, noed 6-11, delivered by Baldwin 1909. c/n 34004. All remain on the roster in early 1970's.

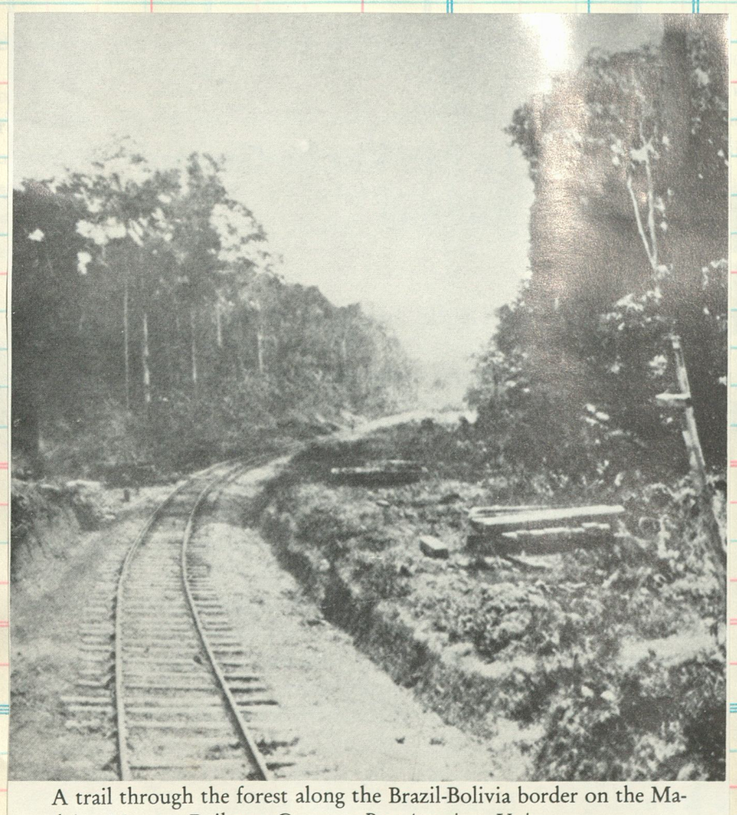


TWICE-WEEKLY MIXED pauses again to refresh Baldwin No. 7 en route from Pôrto Velho to Guajará Mirim on November 15, 1967. The train traversed the 200 miles through the green tunnel of Brazilian jungle in 16 hours to arrive on the advertised.



The "Colonel Church" After Having Been Restored to Service. Here She Is Shown on the Turntable at Porto Velho

After rusting inactive for over twenty years, #1 "Colonel Church", was restored to service in 1908. Blt by Baldwin 1877 c/n 4203. Now on static display at Porta Velho.



A trail through the forest along the Brazil-Bolivia border on the Madeira–Mamora Railway. *Courtesy: Pan American Union.*

Mogul #11, the "10th of July" on the table at Porto Velho

Clos. No.	Sold	Amount	Clos. No.	Sold	Amount

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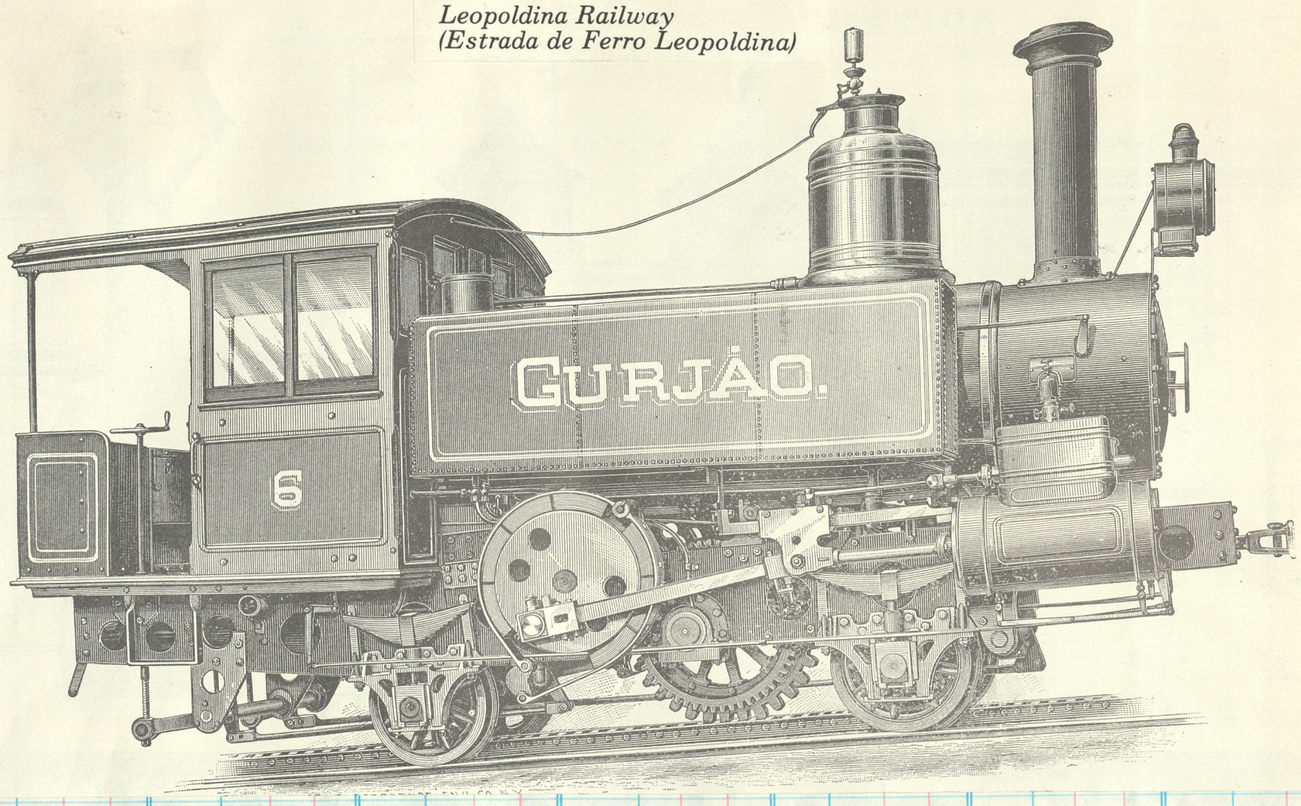
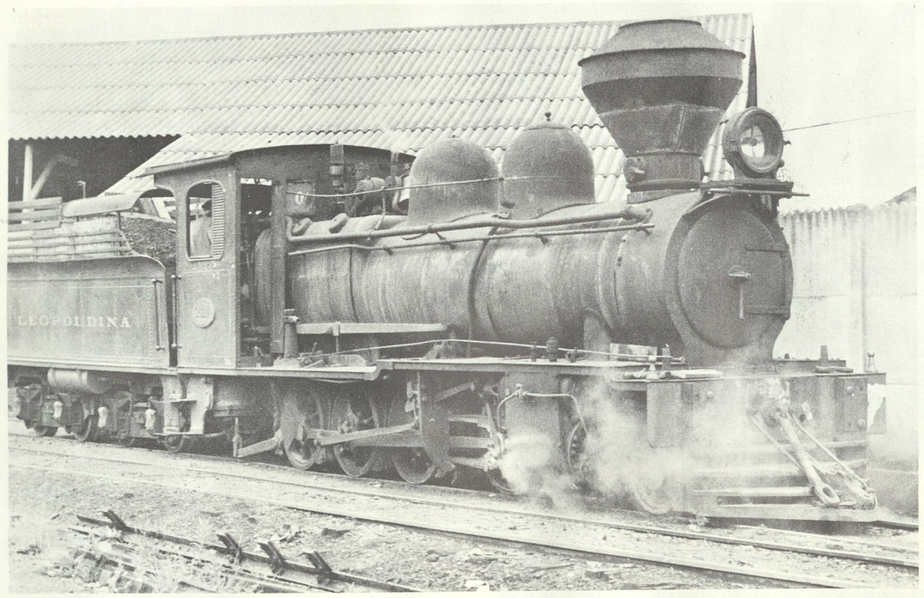
Leopoldina Railway
(Estrada de Ferro Leopoldina)

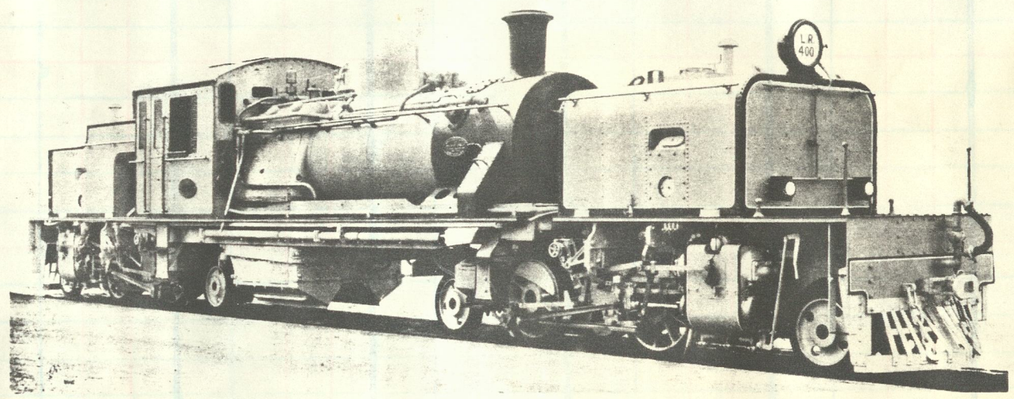


Even in 1968 the EFL still had 186 steam engines on the roster along 534 passenger and 2813 freight cars. Operating 1,396 miles of METER gauge.

After the opening of the Mt. Washington Cog Railway in New Hampshire, rack railways were built in all parts of the world. One such line was the Prince of Grand Pará Railroad in Brazil. The locomotive shown here was built by Baldwin in 1886. It used the Riggenbach (Swiss) system of cog gearing to overcome the 15-percent grades. (*Recent Locomotives*, Fig. 373) c/n 7562

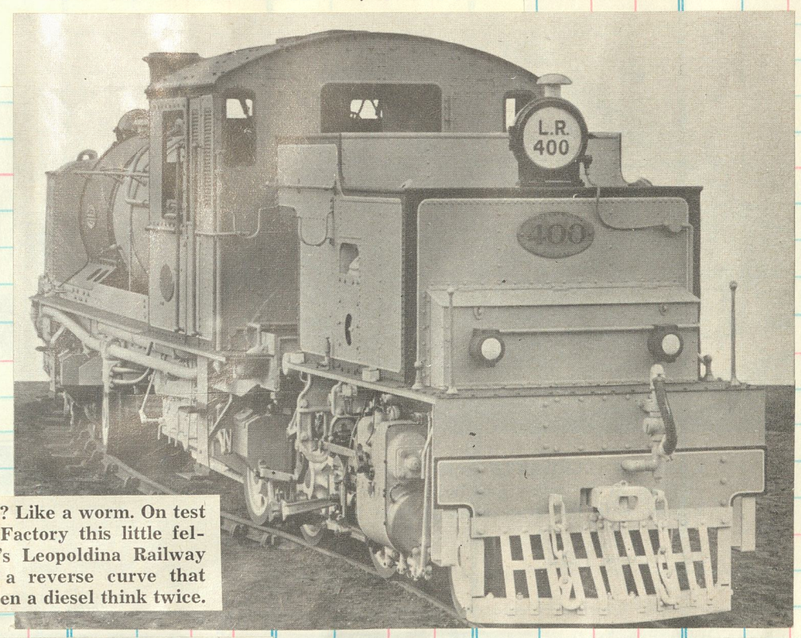


#221 2-8-0 Stephenson 1914

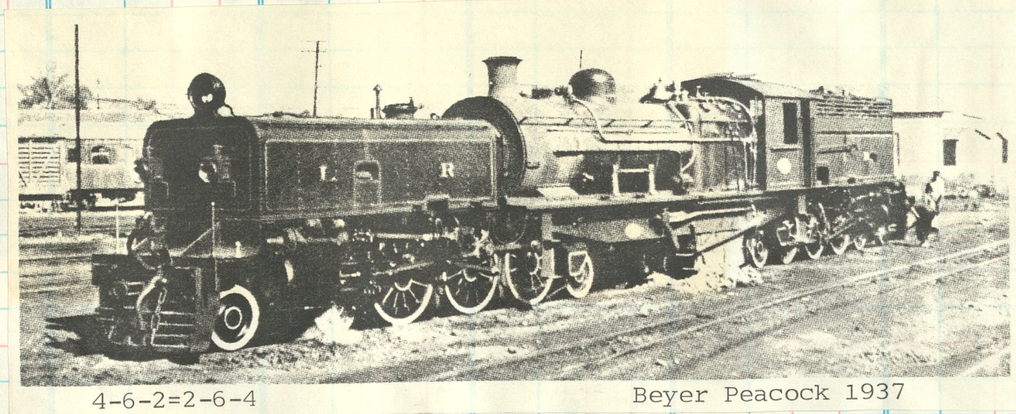


A particularly interesting special purpose Garratt design for Brazil's Leopoldina Railway, featuring the unique 2—4—2 + 2—4—2 wheel arrangement, poppet valves, and oversize grate for low quality, high ash, coal. Beyer Peacock

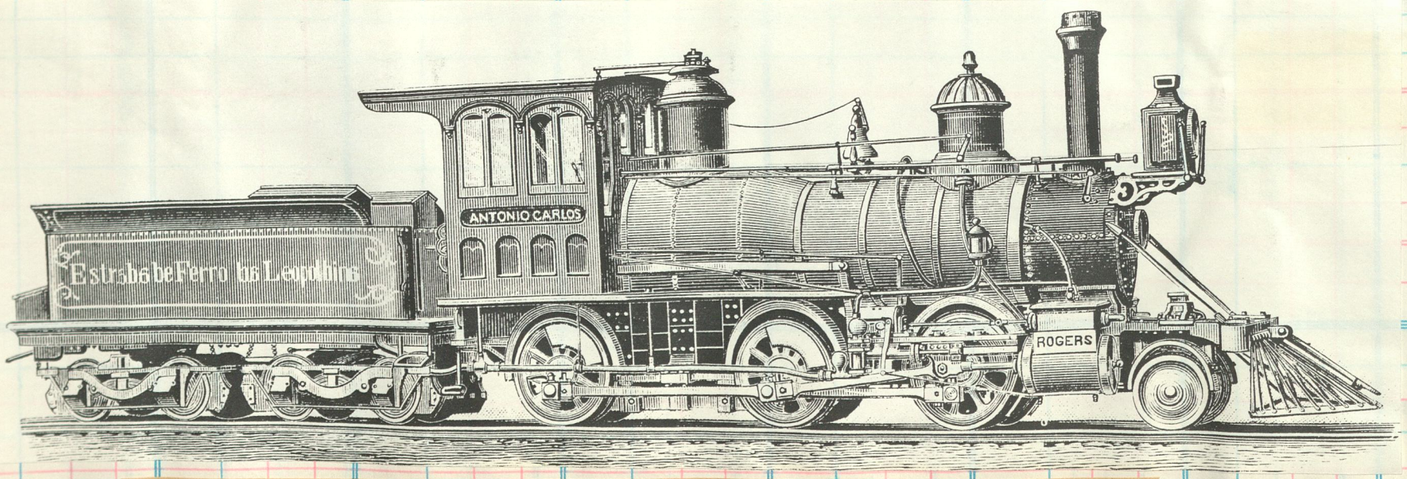
400-403 B-P 1943 c/n 6976



ARTICULATE? Like a worm. On test at the Gorton Factory this little fellow for Brazil's Leopoldina Railway eases through a reverse curve that would make even a diesel think twice.



4-6-2=2-6-4 Beyer Peacock 1937



The 'Antonio Carlos', a Mogul delivered by Rogers 1878 c/n 2471

ALL SHINED UP with some place to go, ex-Leopoldina Railway 39⅜-inch-gauge, Belpaire-boilered, wood-burning Pacific No. 327 (Beyer, Peacock 1925) rolls the *Trem da Serra* excursion behind red and yellow flags out of Coronado Station, Rio de Janeiro, Brazil, to Miguel Pereira on the Brazilian Federal Railroad (RFFSA) on July 19, 1986.

Luiz Carlos Esteves.

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SELLER
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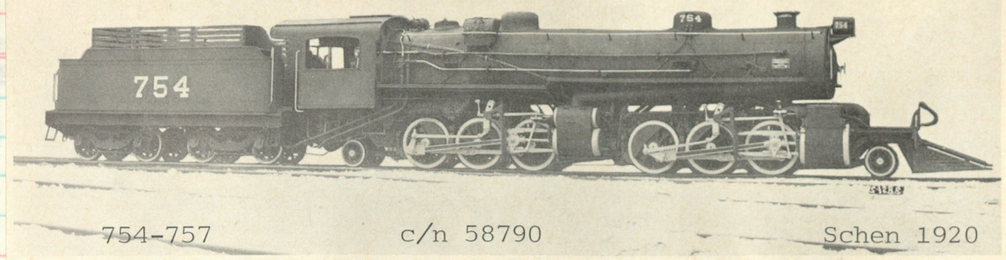
FORM DESTINATION

Sold | Amount | Clos. No. | Sold | Amount | Clos. No. | Sold | Amount | Clos.No. | Sold | Amount

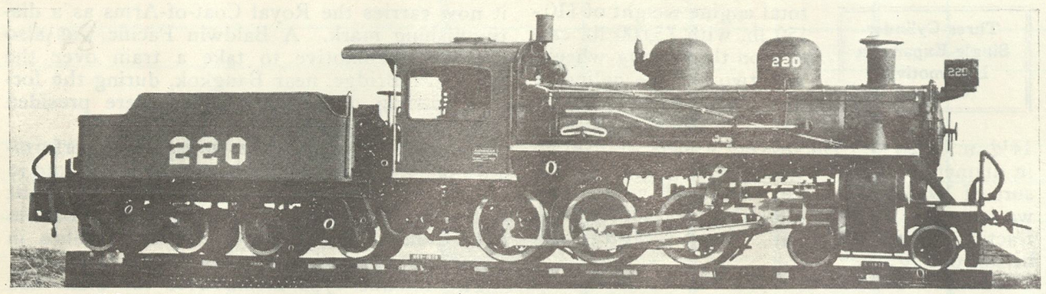
In 1968 the CMdesEdeF was working 51 steam engines with262 passenger, 2720 freight cars. Mileage was 1,062 METER gauge.

Mogyana Railway
(Cia. Mogiana des Estradas de Ferro)



754-757 c/n 58790 Schen 1920

Mogyana Railway — Brazil Gauge 39 3/8" Meter 754 2-6-6-2 1920 45" 93T-47T

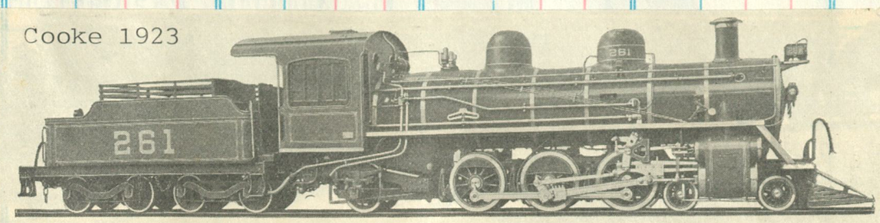


220-221 c/n 67701 Schenectady 1920

Fig. 3344—Ten-Wheel (4-6-0) Type Locomotive, Built for the Mogyana Railway, Brazil, by the American Locomotive Company.

Gage	3 ft. 3⅜ in.	Total wheel base	19 ft. 4 in.
Cylinders, diameter and stroke	15 in. x 20 in.	Fuel	Soft coal
Tractive force	15,920 lb.	Grate area	15.2 sq. ft.
Drivers, diameter	42 in.	Steam pressure	175 lb.
Weight on drivers	55,000 lb.	Evaporative heating surface	604 sq. ft.
Weight of engine	80,500 lb.	Superheating surface	125 sq. ft.
Driving wheel base	8 ft. 8 in.	Tender capacity	1,585 gal.—5½ tons

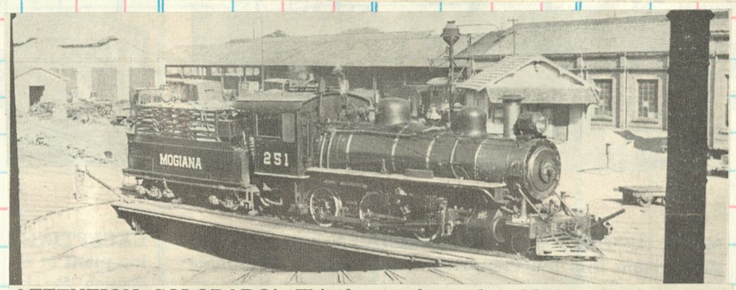
Cooke 1923



BUILT FOR THE MOGYANA RAILWAY c/n 63464

Weight of Engine, 113,000 pounds; Weight on Driving Wheels, 73,000 pounds; Diameter of Driving Wheels, 45 inches; Boiler Pressure, 170 pounds; Cylinders 17½ x 20 inches; Maximum Tractive Power, 19,700 pounds.

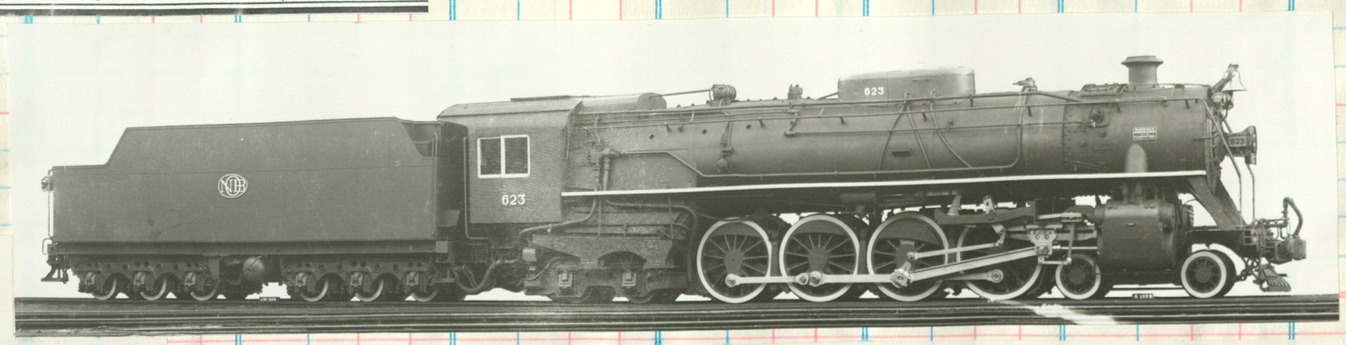
okm



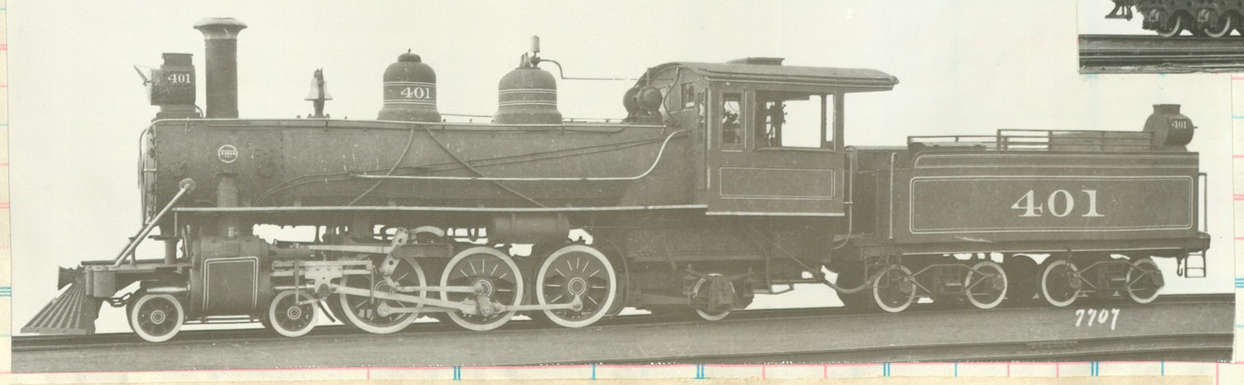
ATTENTION COLORADO! This brass-bound Baldwin cross-compound 4-6-0 operates yet on the meter-gauge Mogiana — and she burns wood in the process! At the last count the 1220-mile railroad owned 210 steam engines.

NORDESTE RAILWAY
(Northwest of Brazil)

NOB covered 1,242 miles of METER gauge with ten steam engines, 163 passenger and 2674 freight cars in 1968



One would identify this engine as standard gauge but three [621-623] built to METER gauge by Schenectady in 1946 c/n 73778



Ten of these haughty meter gauge Pacifics, nos 401-410, was delivered by Baldwin in 1920. Note builders plate shows c/n 53804, which had to have been applied in error. Correct c/n for #401 is 53766.

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5-74 100 bks. (Eureka 29387)
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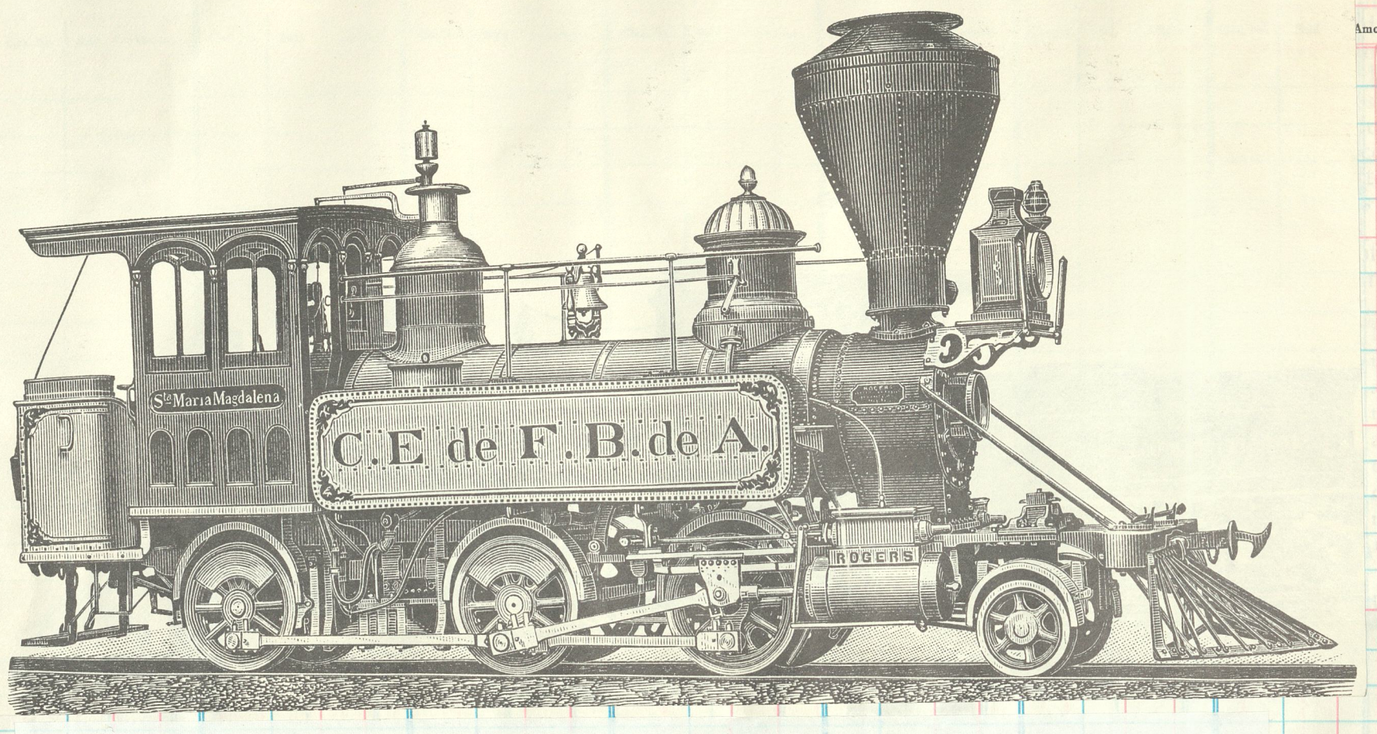
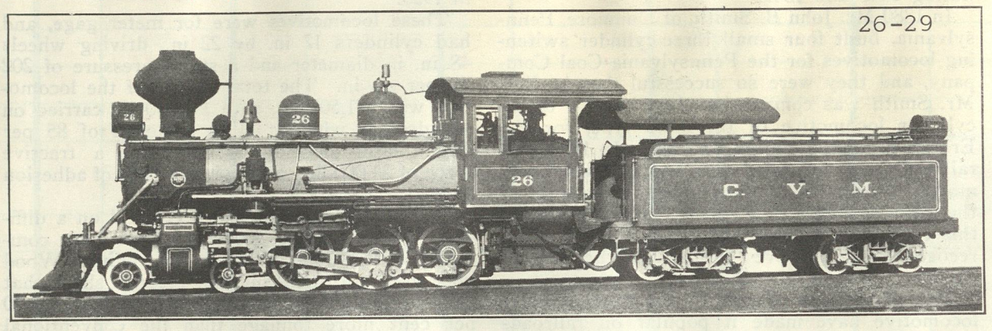


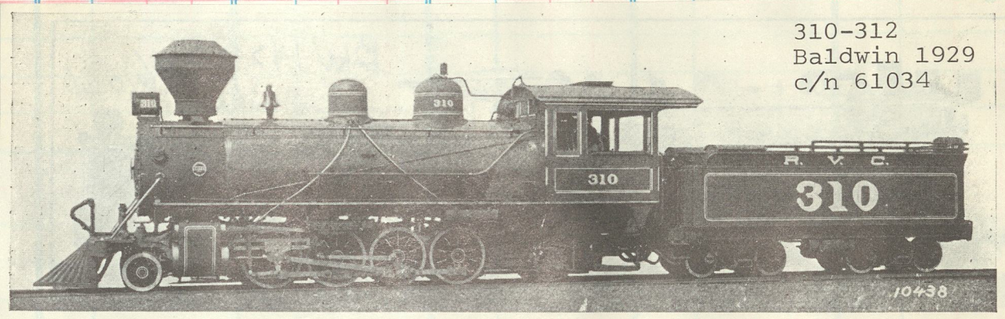
A meter gauge Tank Mogul built for the Barao de Araucana Ry by Rogers in 1878 c/n 2493



26-29

Fig. 3342—Ten-Wheel (4-6-0) Type Locomotive, Meter Gage. Built for Cia. E. de F. Victoria a Minas, Brazil, c/n 58951 by The Baldwin Locomotive Works. 1926

Gage	3 ft. 3⅜ in.	Heating surface, tubes	1,187 sq. ft.
Cylinders	16 in. x 20 in.	Heating surface, firebox	77 sq. ft.
Steam pressure	180 lb.	Heating surface, total	1,264 sq. ft.
Diameter of drivers	43 in.	Grate area	22.7 sq. ft.
Tractive force	18,250 lb.	Weight on drivers	71,500 lb.
Driving wheel base	7 ft. 10 in.	Weight of engine	87,600 lb.
Total wheel base	17 ft. 2 in.	Fuel	Wood or Coal

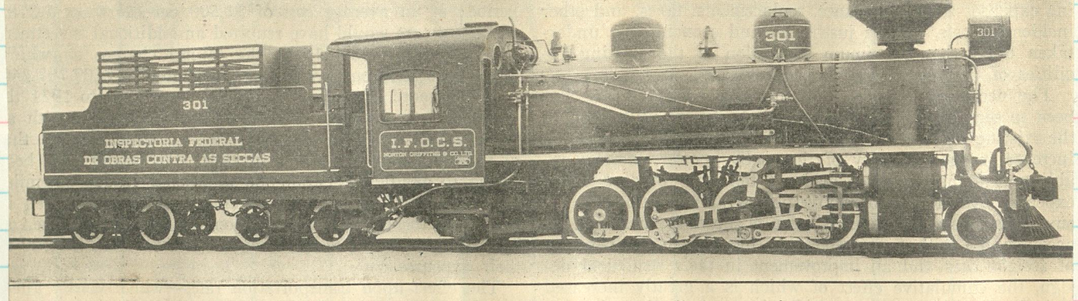


310-312
Baldwin 1929
c/n 61034

Fig. 3354—Mikado (2-8-2) Locomotive, Meter Gage. Built for Cearense, Rede de Viacao, Brazil, by The Baldwin Locomotive Works.

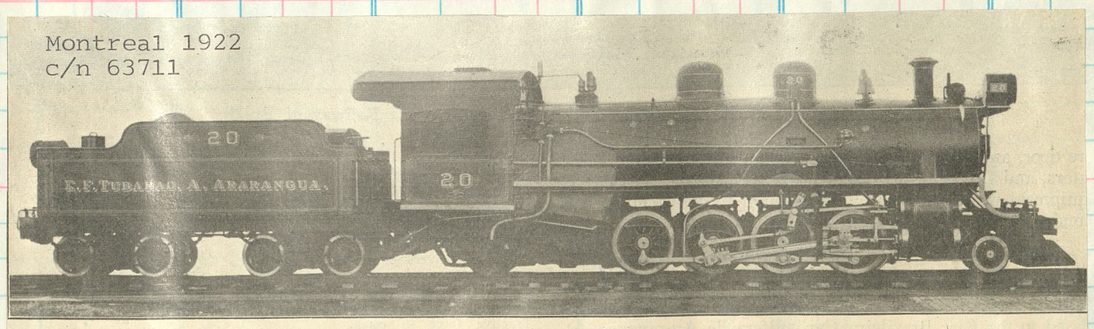
Gage	3 ft. 3⅜ in.	Total wheel base	24 ft. 2 in.
Cylinders	17 in. x 22 in.	Evaporative heating surface	1,910 sq. ft.
Steam pressure	170 lb.	Grate area	29.2 sq. ft.
Diam. of drivers	42 in.	Weight on drivers	88,000 lb.
Tractive force	21,800 lb.	Weight of engine	118.000 lb.
Driving wheel base	11 ft. 0 in.	Fuel	Wood

Norton, Griffiths & Co. Ltd. 301-303 meter gauge
Cooke 1922 c/n 63340



Contractor's Locomotive for Irrigation Project in Northern Brazil, Built by American Locomotive Company

Montreal 1922
c/n 63711



Meter Gage Mikado Type Locomotive for the Tubarao a Ararangua of Brazil

BROOKS 1917

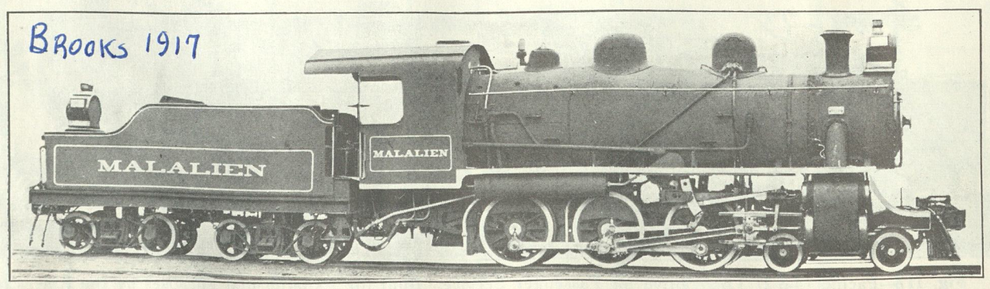
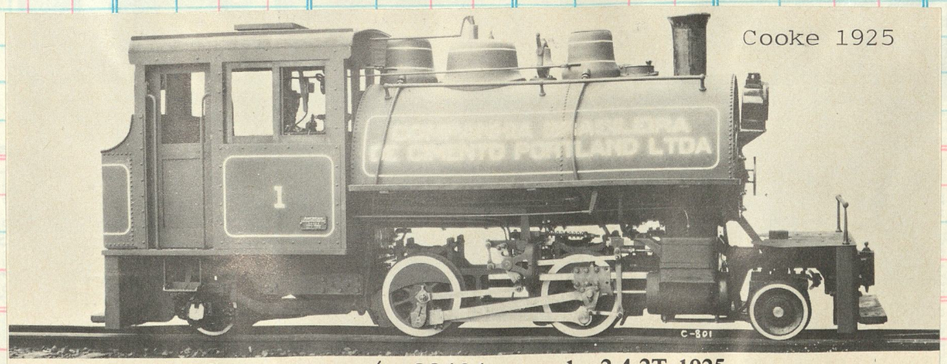


Fig. 114—Ten-Wheel (4-6-0) Locomotive for Passenger and Freight Service. Built for Compania Espana Colonisacion by the American Locomotive Company.

Gage	3 ft. 3⅜ in.	Heating Surface, Tubes	1,285 sq. ft.
Cylinders	17 in. x 22 in.	Heating Surface, Firebox	118 sq. ft.
Steam Pressure	180 lbs.	Heating Surface, Total	1,403 sq. ft.
Diam. of Drivers	48 in.	Grate Area	17.9 sq. ft.
Tractive Effort	18,400 lbs.	Weight on Drivers	78,500 lbs.
Rigid Wheel Base	10 ft.	Weight, Total	100,500 lbs.
Total Wheel Base	9 ft. 6 in.	Fuel	Soft coal

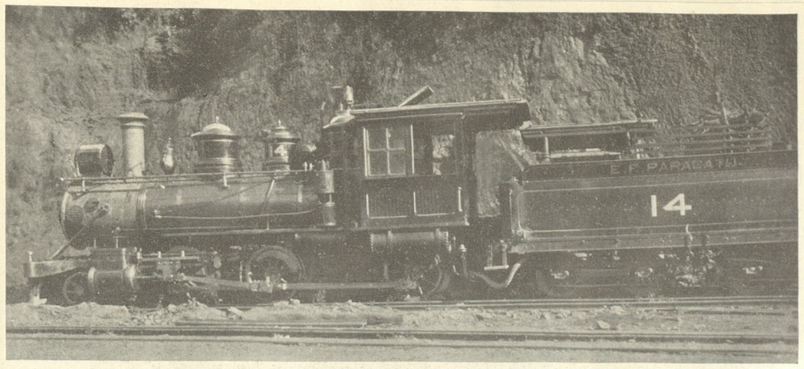
Cooke 1925



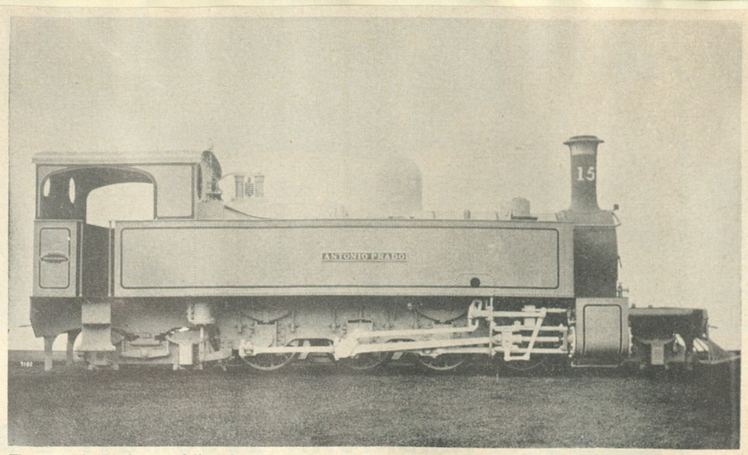
Brazilian Portland Cement c/n 66404 **1 2-4-2T 1925**

Fig. 3320—Type 2-4-2 T Tank Locomotive. Built for the Brazilian Portland Cement Company by the American Locomotive Company.

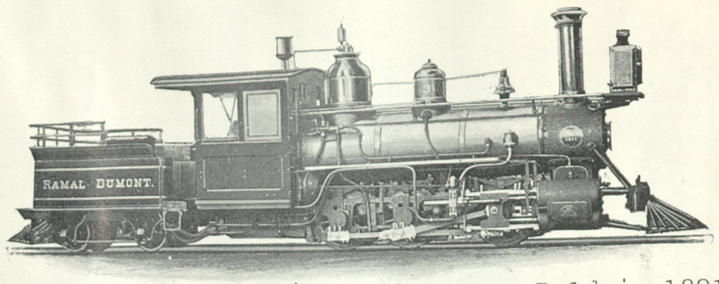
Gage	1 ft. 11½ in.	Heating surface, tubes	191 sq. ft.
Cylinders	9 in. x 14 in.	Heating surface, firebox	27 sq. ft.
Steam pressure	175 lb.	Heating surface, total	218 sq. ft.
Diam. of drivers	27 in.	Grate area	5.5 sq. ft.
Tractive force	6,250 lb.	Weight on drivers	26,500 lb.
Wheel base, driving	4 ft. 6 in.	Weight of engine	35,000 lb.
Wheel base, engine	16 ft. 0 in.	Fuel	Oil



This Mogul type locomotive, bearing construction number 3665, was built in 1874 for the Sao Paulo and Rio de Janerio Railway of Brazil, now part of the Central do Brazil system. The locomotive is still in operation on the Paracatu Railway. Fifty-two years of service.

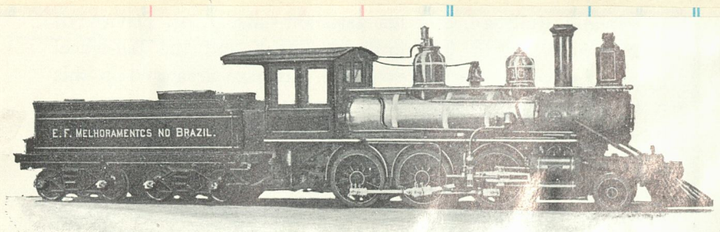


The *Antonio Prado* was delivered to the Minas & Rio Railway of Brazil by an English builder in 1890.



#3 c/n 11892 Baldwin 1891

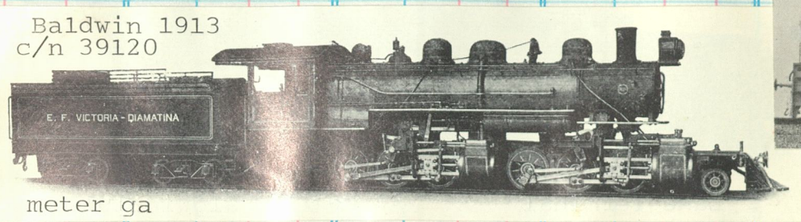
PLANTATION LOCOMOTIVE, RAMAL DUMONT, BRAZIL.



#10 c/n 14031 Baldwin 1894

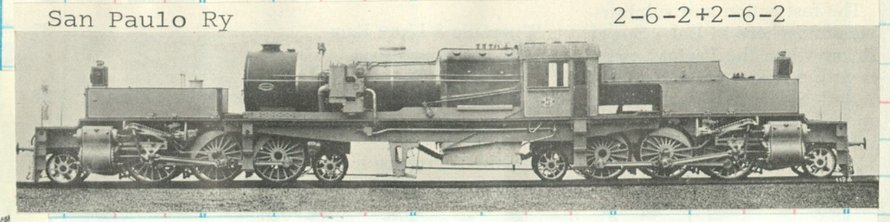
MOGUL LOCOMOTIVE BRAZILIAN INDUSTRIAL IMPROVEMENT CO.

Baldwin 1913
c/n 39120

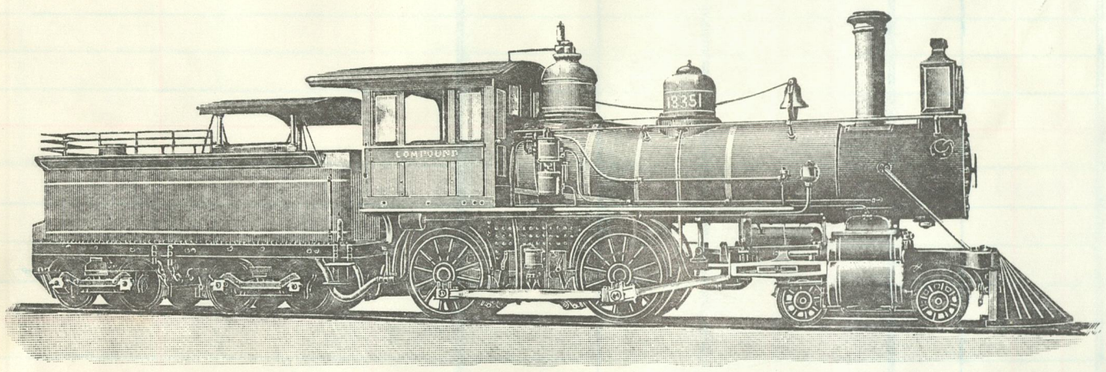


meter ga

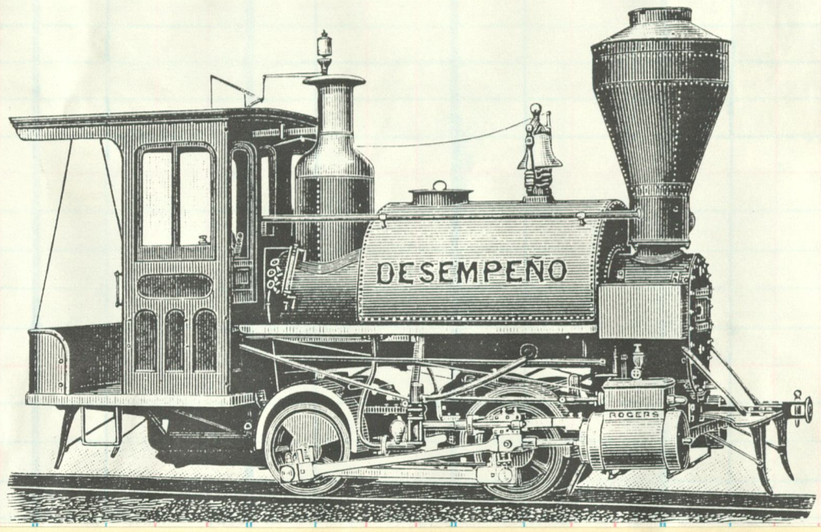
San Paulo Ry 2-6-2+2-6-2



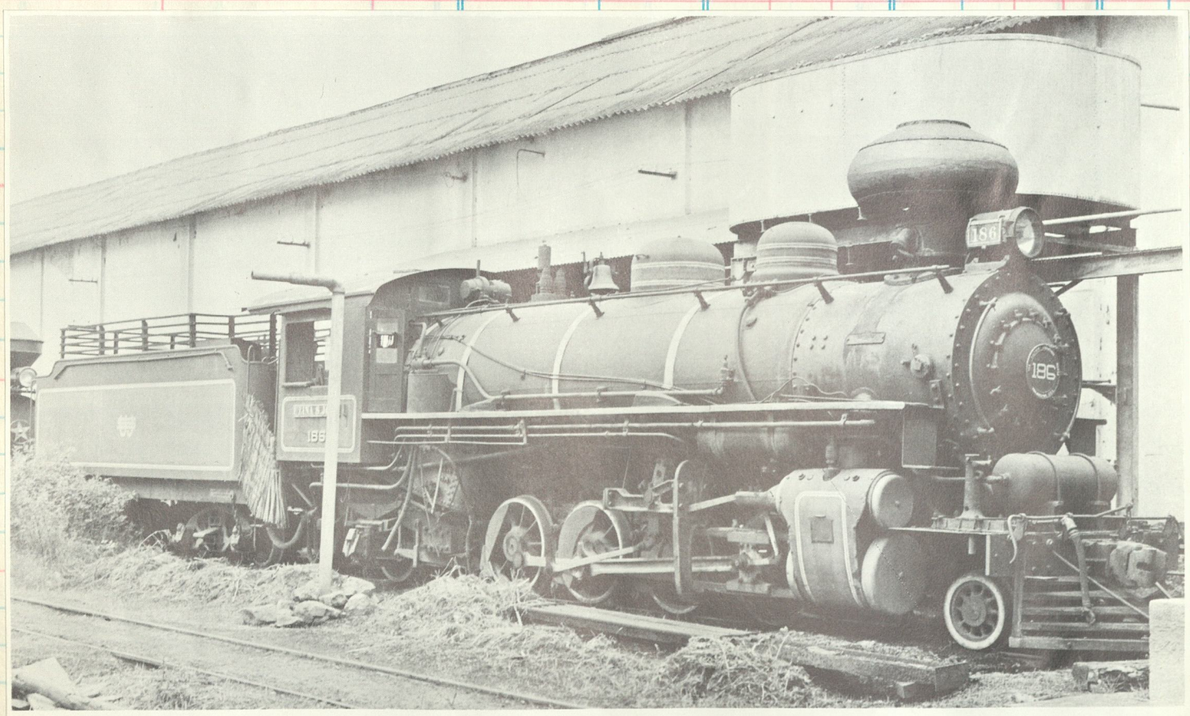
160-165 5'3" gauge Beyer-Peacock 1927



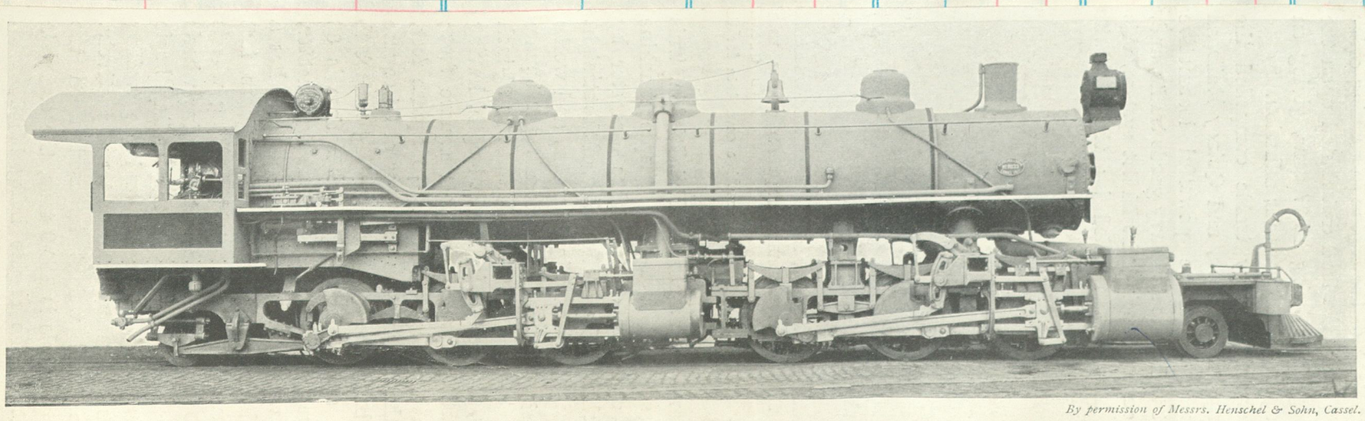
Baldwin construction No. 13351 was built in April 1893 for exhibit at the World's Columbian Exposition held in Chicago during that year. This engine was exhibited as an example of a Vauclain compound narrow gauge 4-4-0. After the exposition this 3-foot gauge engine was sold to the Empreza Industrial de Melhoramentos Railroad of Brazil.



A 'burro' ordered from Rogers by Hobson, Hortando & Co. in 1875, c/n 2417, to a gauge of $2'9^{7}/_{8}"$.



C Vale do Rico Doce #179-186 meter gauge c/n 72667 Baldwin 1946

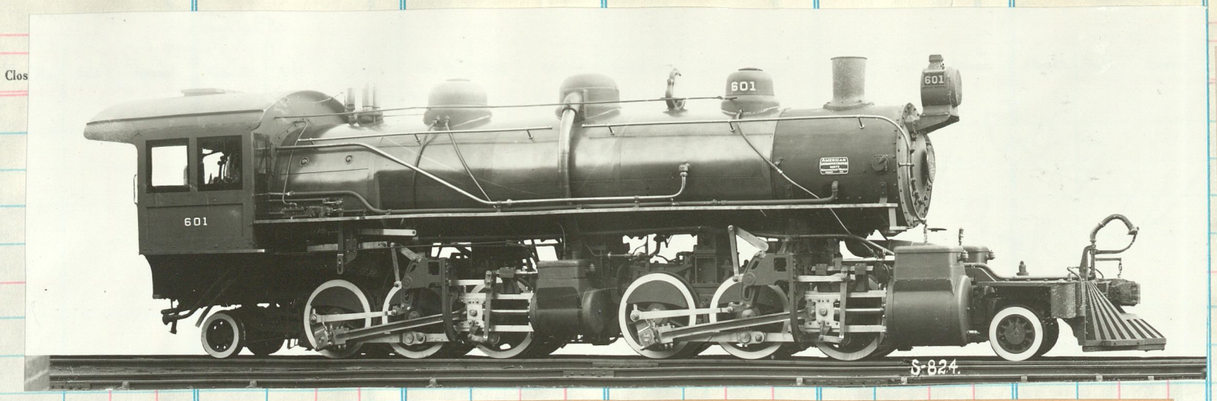


By permission of Messrs. Henschel & Sohn, Cassel.

POWERFUL ARTICULATED (2-6-6-2) MALLET DOUBLE COMPOUND BUILT FOR THE METRE GAUGE BRAZIL RAILWAY.

The engine weighs 87½ tons and can draw a train of 1,500 tons at a speed of 20 miles per hour round curves of 315 feet radius.

Clos. No. | Sold | Amount | Clos. No. | Sold | Amount | Clos | Sold | Amount | Clos.No. | Sold | Amount



A half dozen classic 2-6-6-2's were delivered by Schenectady in 1911. Noed 601-606 c/n 50272

In 1968 the VFRGS still operated 112 steam engines with 301 passenger and 3716 freight cars over 2359 miles of meter gauge.

631-632

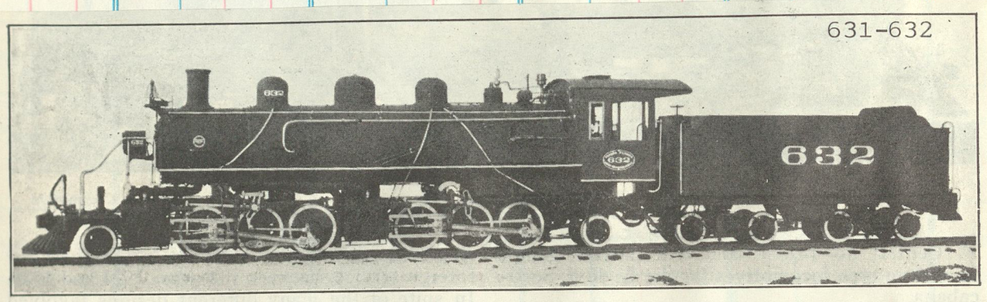
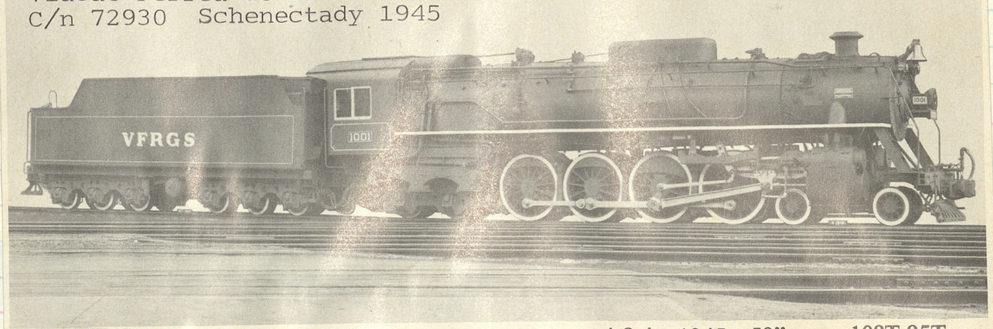


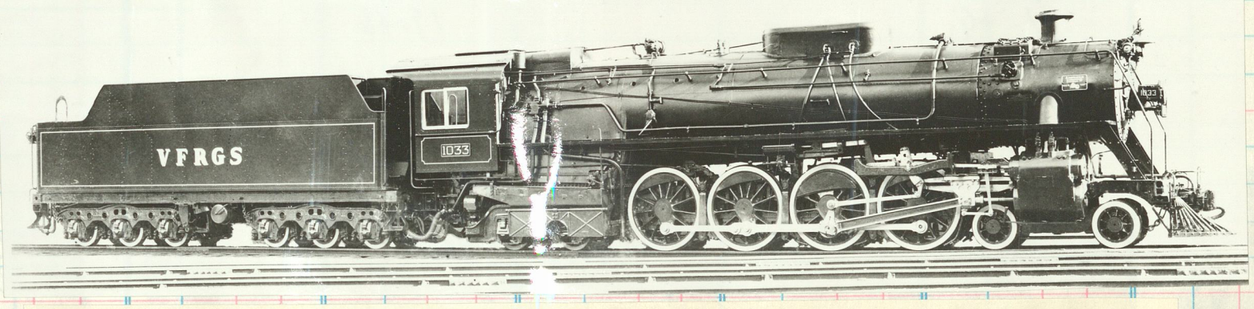
Fig. 3351—Articulated (2-6-6-2) Locomotive for Freight Service, Meter Gage. Built for Viação Ferrea do Rio c/n 58159 Grande do Sul, Brazil, by The Baldwin Locomotive Works. 1924

Gage	3 ft. 3⅜ in.	Heating surface, tubes	1,546 sq. ft.
Cylinders (4 simple)	16 in. x 22 in.	Heating surface, firebox	148 sq. ft.
Steam pressure	170 lb.	Heating surface, superheater	432 sq. ft.
Diam. of drivers	42 in.	Grate area	53.7 sq. ft.
Driving wheel base	7 ft. 6 in. each	Weight on drivers	132,540 lb.
Total driving wheel base	22 ft. 9 in.	Weight of engine	166,590 lb.
Total wheel base	35 ft. 9 in.	Fuel	Coal

Viacao Ferrea do Rio Grande do Sul 1001-1027
C/n 72930 Schenectady 1945

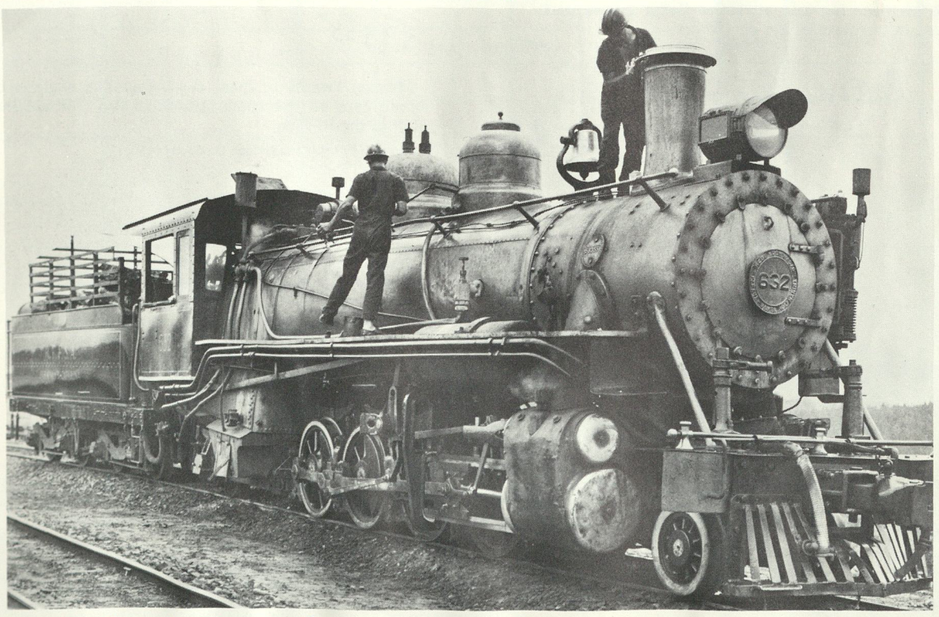


Brazilian National Railways Gauge 39 3/8" Meter 1001 4-8-4 1945 59" 108T-85T



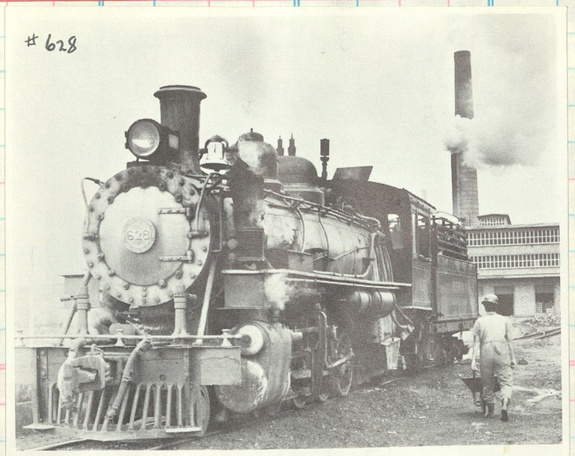
In 1946 Schenectady supplied an additional fifteen, #1028-1042, to the VFRGS roster. [c/n 74878] This made an impressive fleet of fourty two Northerns to protect all schedules.

Rede Viacao Parana-Santa Catarina



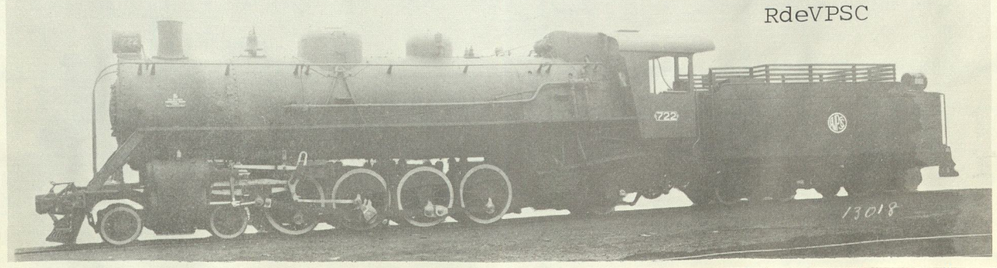
Baldwin built fourteen meter gauge Mikes for the Sao Paulo-Rio Grande in 1925 noed 303-316. All later went to the RVPSC [RFFSA] and noed 620-633. The 632, above, was SP-RG #315 with c/n 58355.

#628



The RdeVPSC, in 1968, was using 71 steam engines, with 304 passenger, 5755 freight cars on 2,143 miles of METER gauge track.

720-723 c/n 71585 Baldwin 1947
RdeVPSC



SELLER

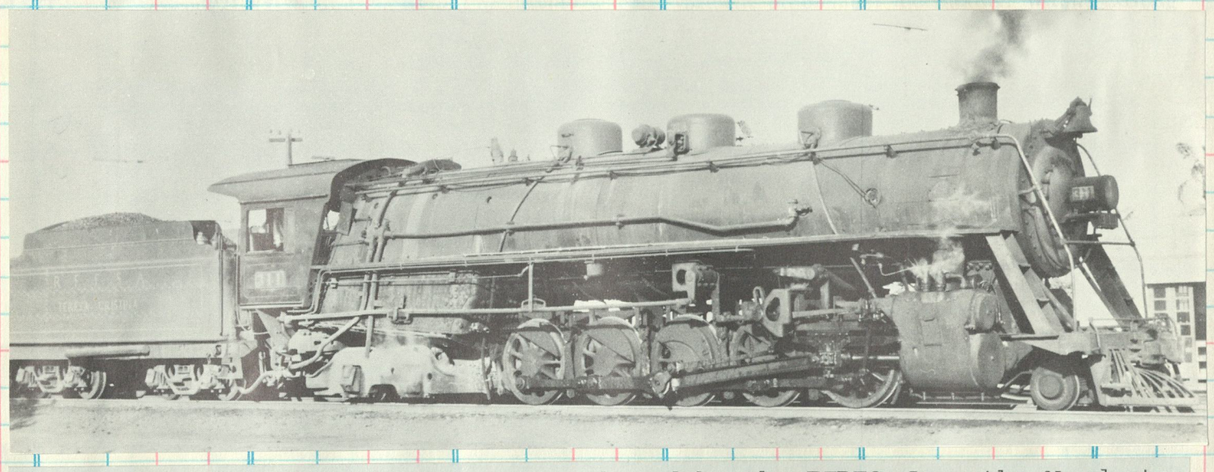
DATE

E F DONA TERESA CRISTINA

Into the early 1970's the EFDTC was still fully operated by steam. This METER gauge road, in 1968, was 188 Mi long with 31 engines, 33 passenger and 736 freight cars. Coal amounted to about 90% of the tonnage handled.

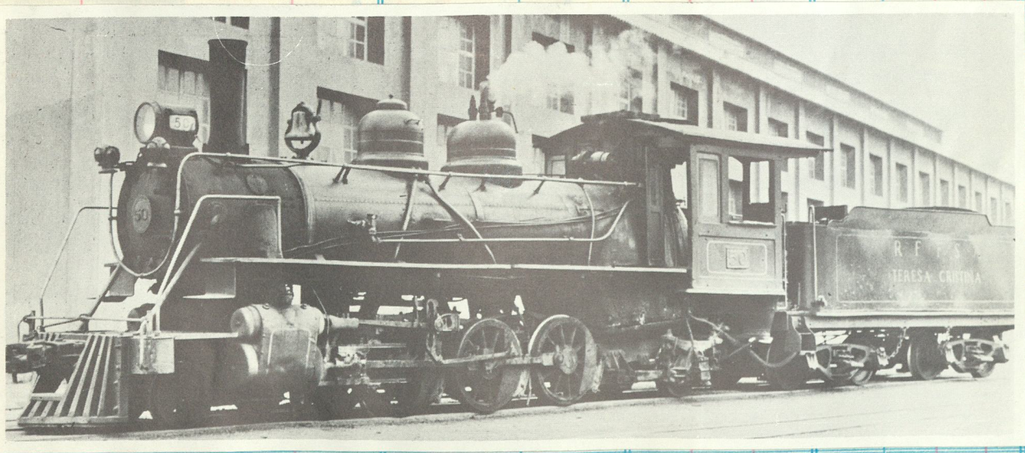
Who says narrow gauge can't be BIG! Looking, and acting, like a Chicago & Illinois Midland operation #313 heads back to the mines with a string of empties. The 313, 2-10-4, was built by Baldwin 1939 as Central Brazil 1660.

One of the fourteen 2-10-4's on the EFDTC roster. #304 built as Central Brazil #1654 by Baldwin in 1939 c/n 62357.



The 311 was one of the 2-10-4's purchased by the EFDTC from the Nordeste (NW OF BRAZIL). Erected in 1946 by Baldwin, c/n 72686, as NOB #801.

Above: Baldwin articulated No. 203 highballs coal from Lauro Müller to Capivari on the EFDTC.



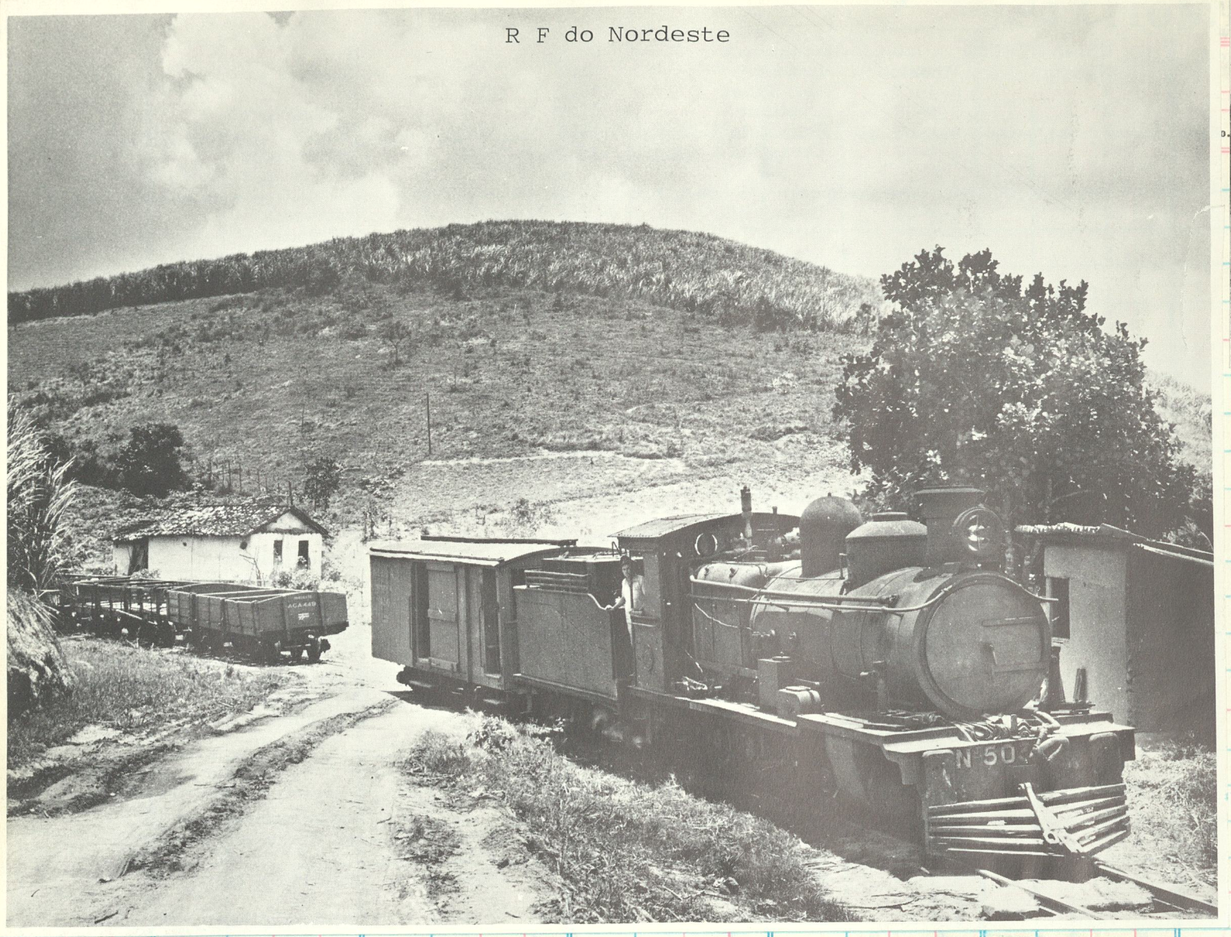
Three perky 4-6-2's built for C. Bras. Carbon de Ararangua noed 50-52 by Baldwin 1925 c/n 58281. To the EFDTC same nos. [?]

The Baldwin record indicates this meter gauge jewel was built for Guarahum-Haqui e Haqui in 1928 as #14 c/n 60366

Total

Clos. No.	Sold	Amount	Clos.

R F do Nordeste



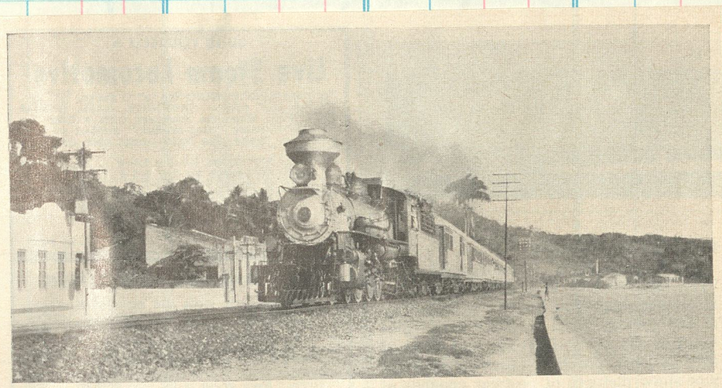
RFdoN

Nos 502 & 504 outside the engine shed at Palmares

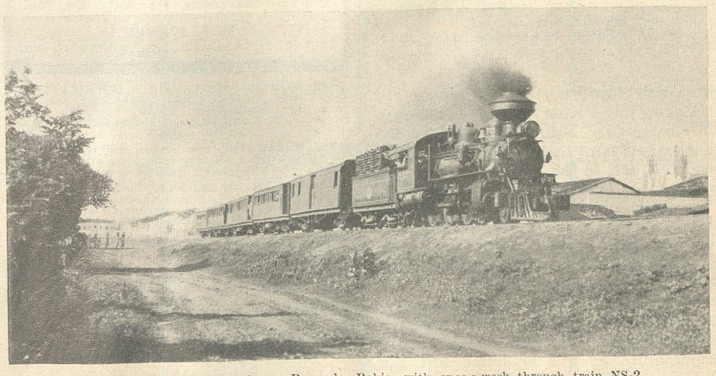
of these classics still haul freight 75 miles up from the port of Valpa-

1910, does some

JUNE 1990

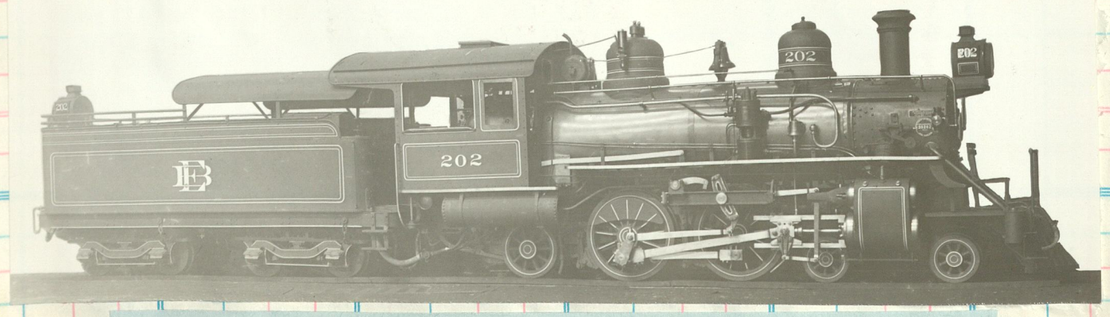


Pacific No. 303 pulls eight cars of the Viacao Ferrea Federal Leste Brasileiro past Praia Grande.



Wood-burning Ten-Wheeler No. 273 leaves Brumade, Bahia, with once-a-week through train NS-2.

Cie de F Federaux de 1'Est Bresilien



Baldwin delivered five [201-205] of these perky meter gauge 4-4-2's in 1913. c/n 39262

Ten wheeler 20-24 from Baldwin in 1921 c/n 55119

94

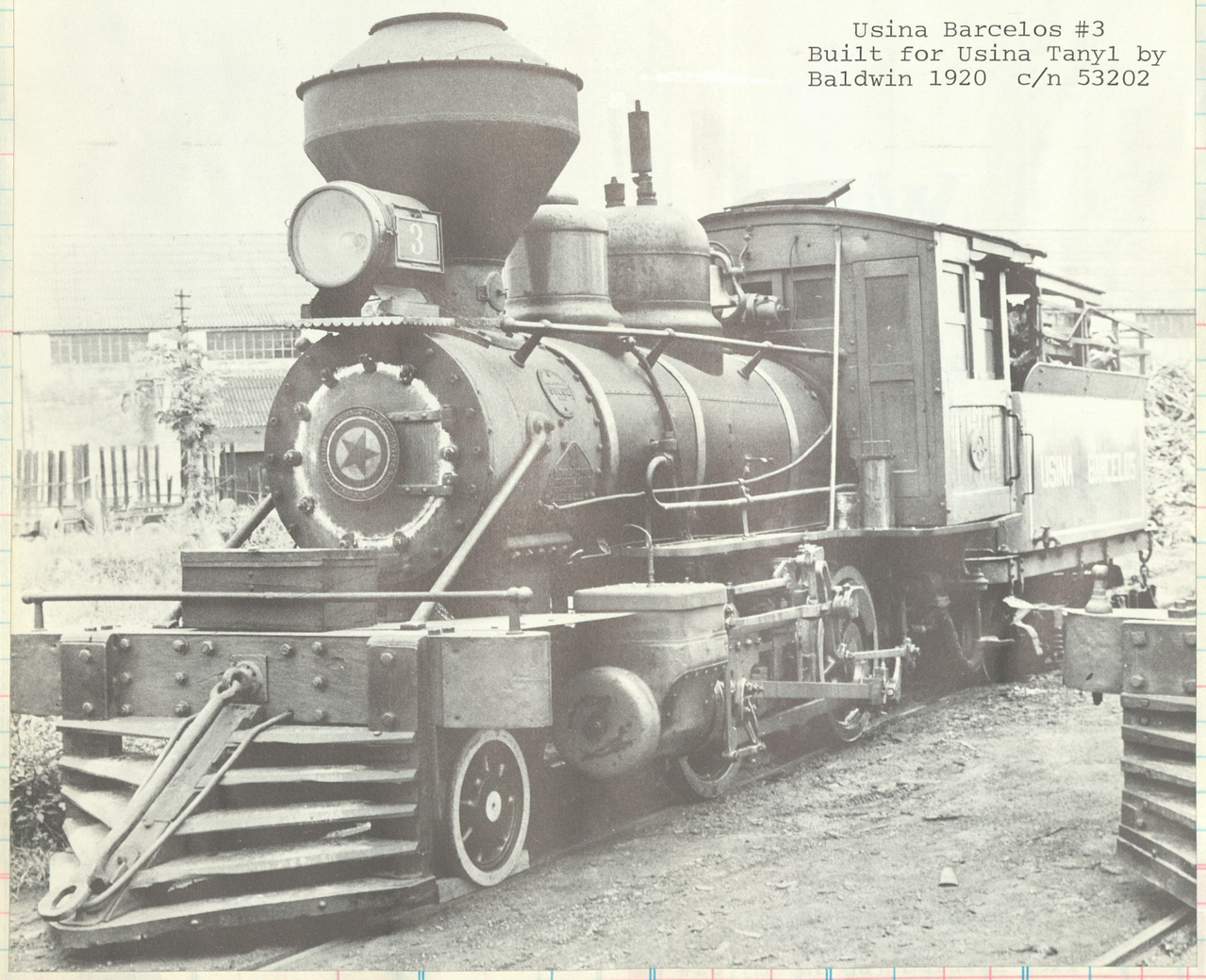
THE SUGAR USINAS, HIDDEN TREASURE OF BRAZILIAN STEAM

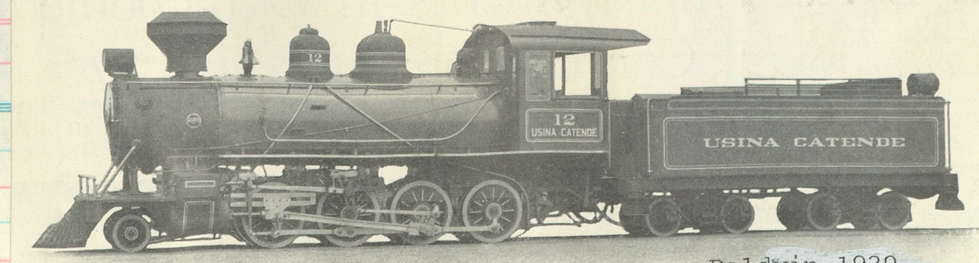
SELLER
DATE

FORM	DESTINATION	Amt.	Com. No.	Clos. No.	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount

In 1876 Baldwin built this meter gauge 4-4-0 (c/n 3993) for Busk & Jevos the "POUBAL". Shown here, in 1972, as Usina Barcelos #4 being wooded up at Campos.

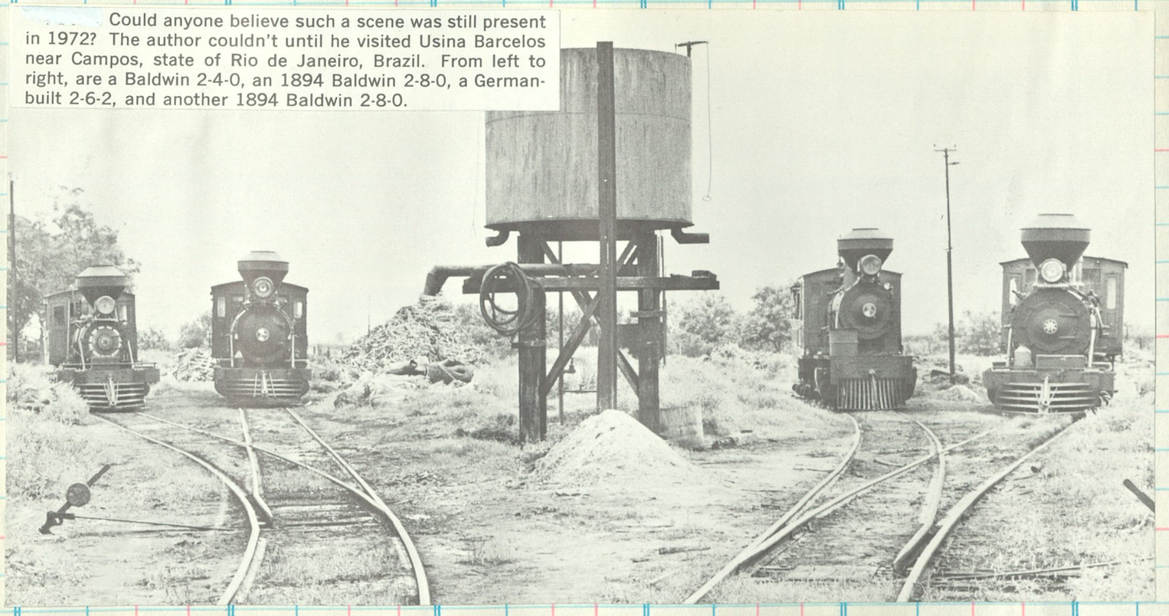
Usina Barcelos #3
Built for Usina Tanyl by
Baldwin 1920 c/n 53202



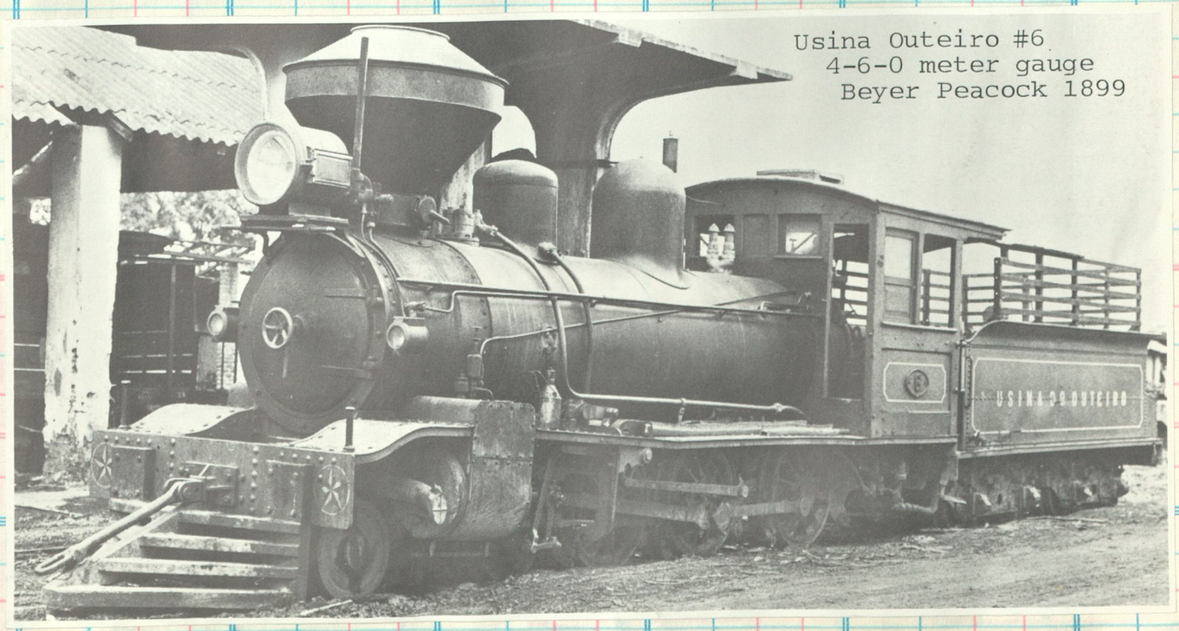


c/n 60872 meter gauge Baldwin 1929

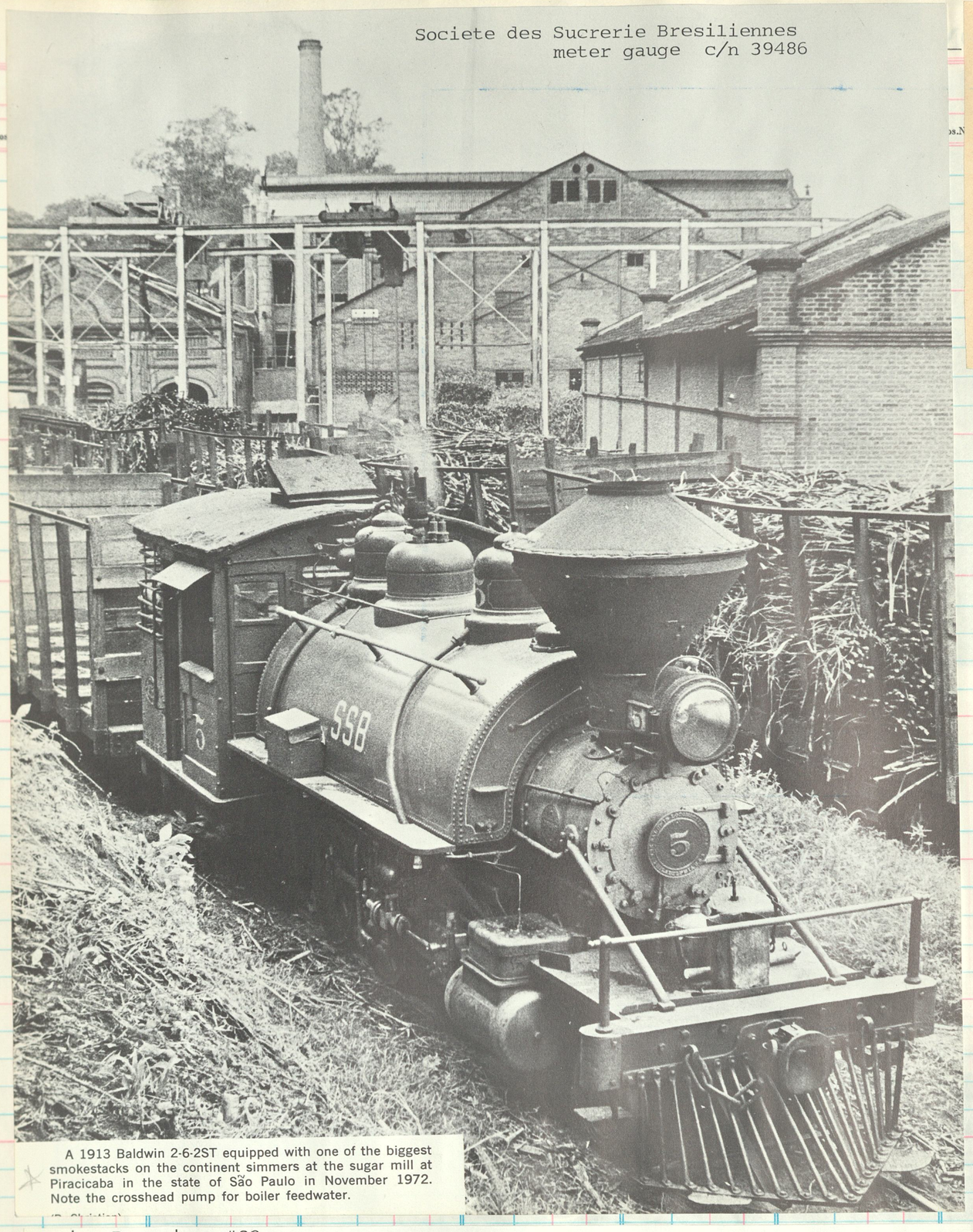
Could anyone believe such a scene was still present in 1972? The author couldn't until he visited Usina Barcelos near Campos, state of Rio de Janeiro, Brazil. From left to right, are a Baldwin 2-4-0, an 1894 Baldwin 2-8-0, a German-built 2-6-2, and another 1894 Baldwin 2-8-0.



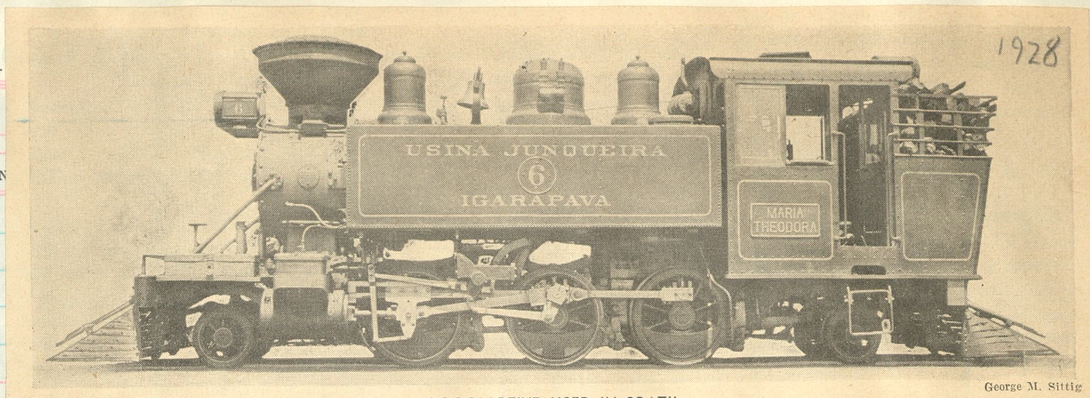
Usina Outeiro #6
4-6-0 meter gauge
Beyer Peacock 1899



Societe des Sucrerie Bresiliennes
meter gauge c/n 39486



A 1913 Baldwin 2-6-2ST equipped with one of the biggest smokestacks on the continent simmers at the sugar mill at Piracicaba in the state of São Paulo in November 1972. Note the crosshead pump for boiler feedwater.



1928

George M. Sittig

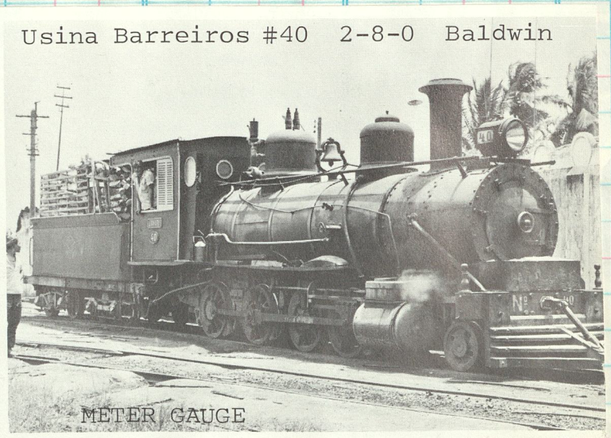
LOCOMOTIVE USED IN BRAZIL

Locomotive 6 of the Usina Junqueira Igarapava Railway was built in the United States at the Baldwin Works. It is a wood burner, running on a gauge of 3 feet 3⅜ inches, having cylinders 14 by 18 inches; drivers, 40 inches; steam brakes on drivers; total weight of engine, 77,000 lbs.

Meter gauge Usina Santa Therezinha 2-8-2 with a train of cane for the mill near Palmares

Usina Barreiros #32
2-6-0 No. British

Usina Barreiros #40 2-8-0 Baldwin

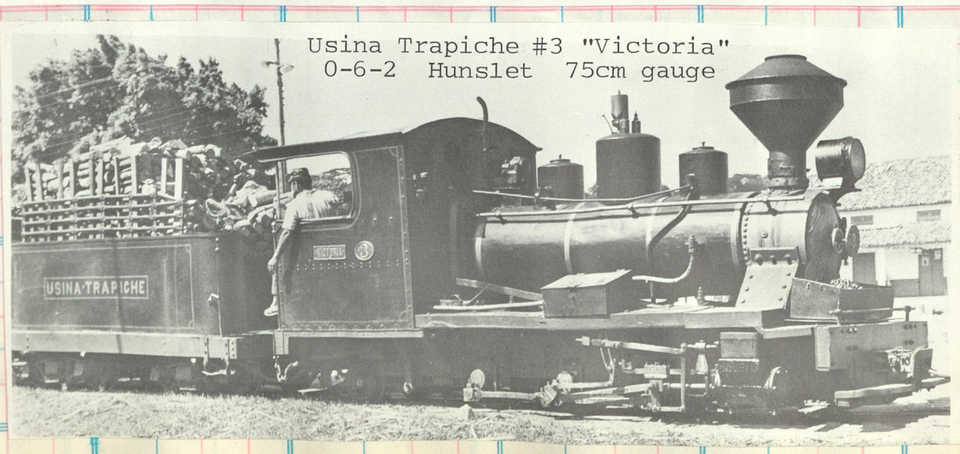


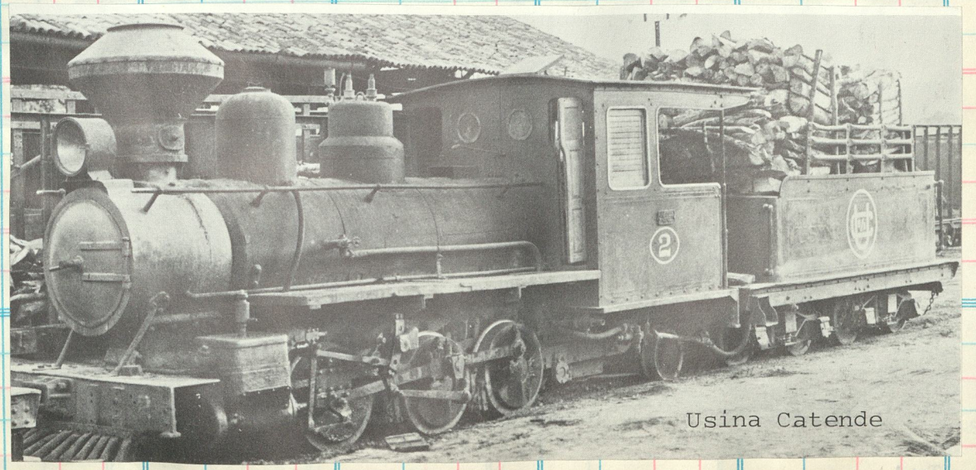
METER GAUGE

Usina Catende #22
meter gauge

Former Sorocabana #242 c/n 65983 Schenectady 1924

Usina Trapiche #3 "Victoria"
0-6-2 Hunslet 75cm gauge





Usina Catende

96

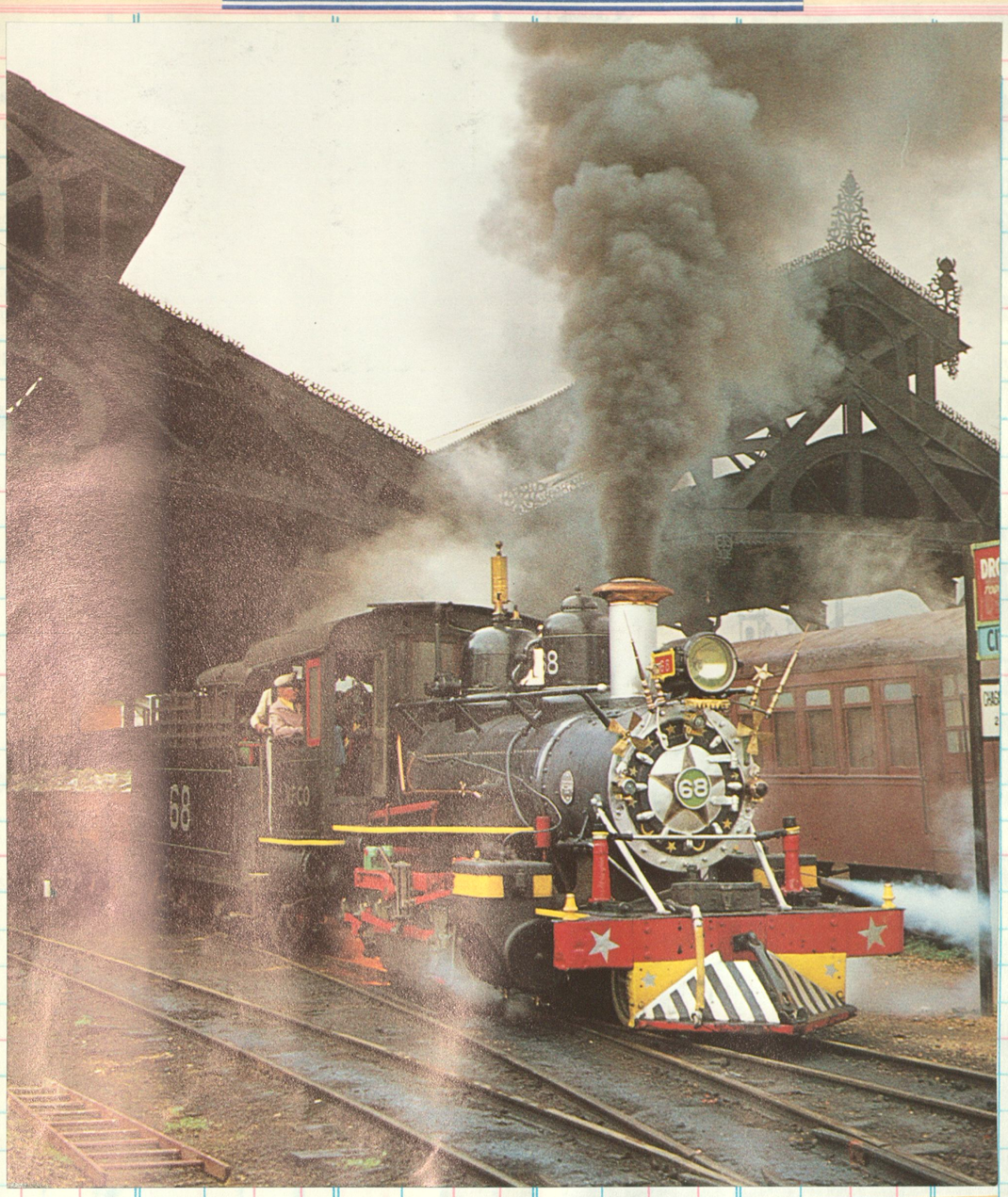
ESTRADA de FERRO OESTE de MINAS

SELLER
DATE
FORM

V F C O
Viacao Ferra Centro-Oeste
in 1955

30" Gauge

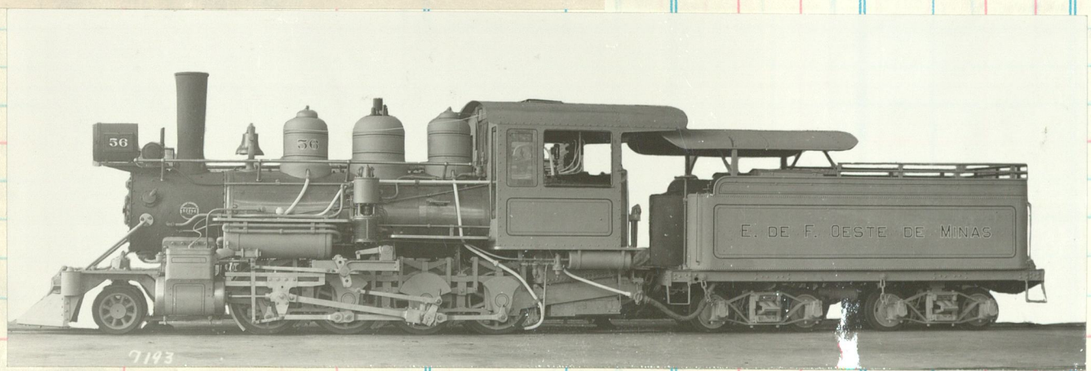
Sold | Amount | Clos. No. | Sold | Amount | Clos. No. | Sold | Amount | Clos.No. | Sold | Amount



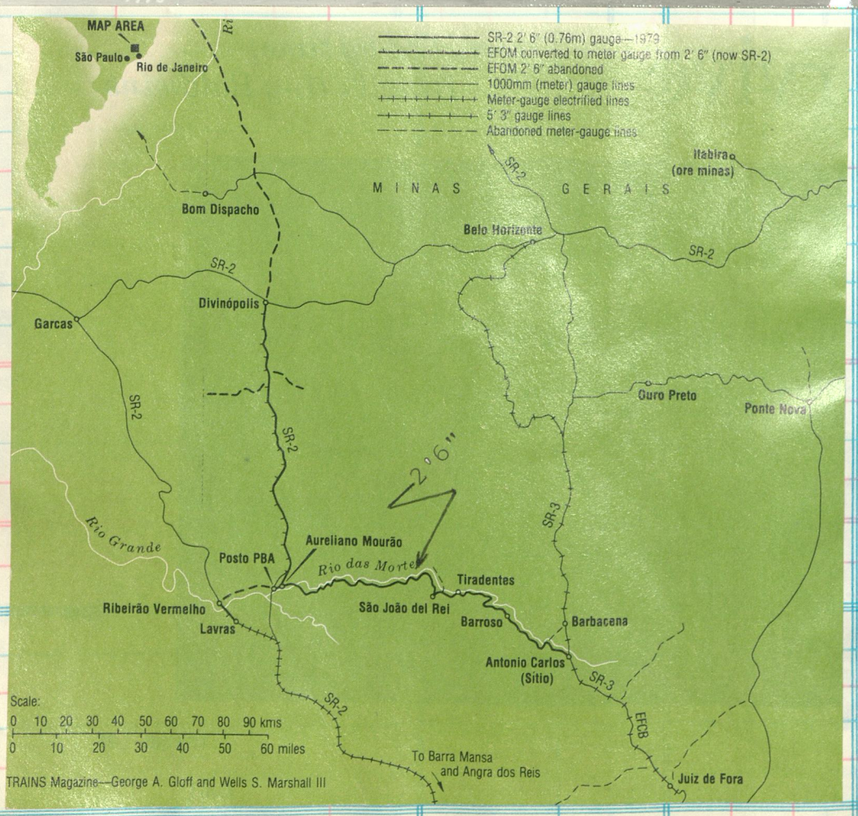
A sight to make one glad to be alive!!

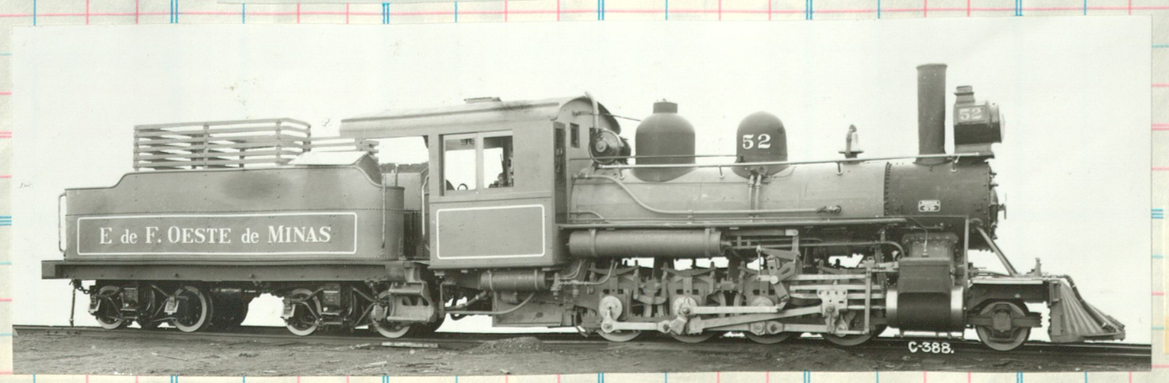
Polished and painted the 68 waits for the highball at Sao Joao del Rei with the mixed for Antonio Carlos.

Baldwin's foto of #56 c/n 52256 ready for shipment in 1919. Later renoed #68 and still in service!!

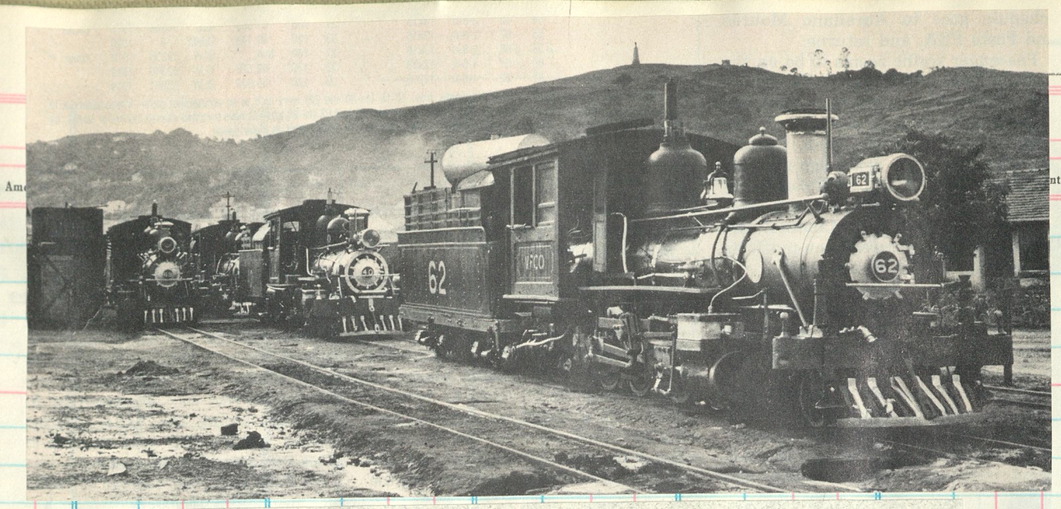


At Antonio Carlos 68 is ready to depart while 4-6-0 #39 [Baldwin 1911 c/n 37084] engages in a bit of switching

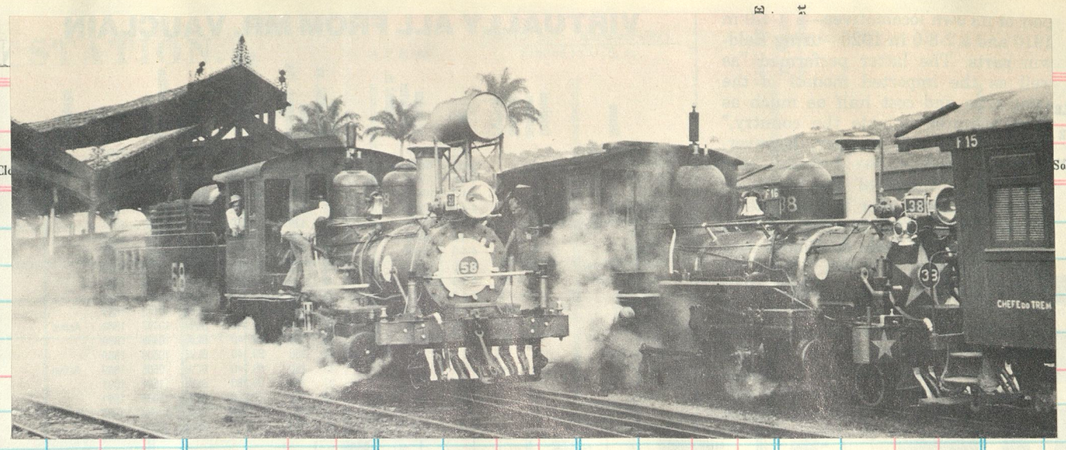


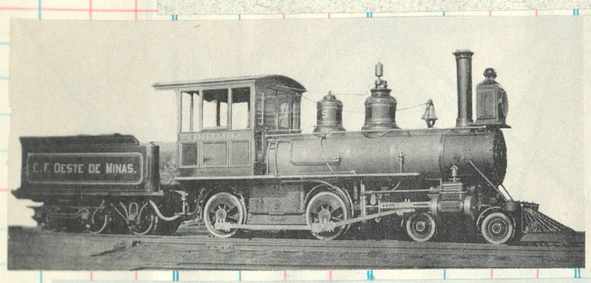


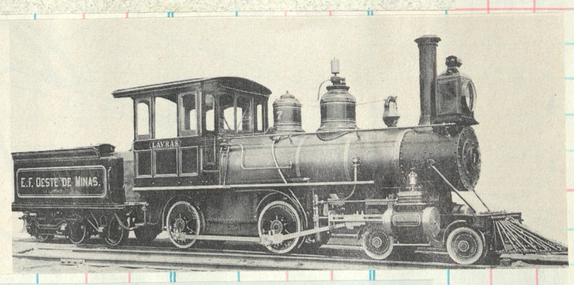
Three 2-8-0's delivered by Cooke in 1913 were the only ALCO engines on the roster. #52 c/n 54386.



Four of the eighteen little mustangs on the active roster in the 1970's.

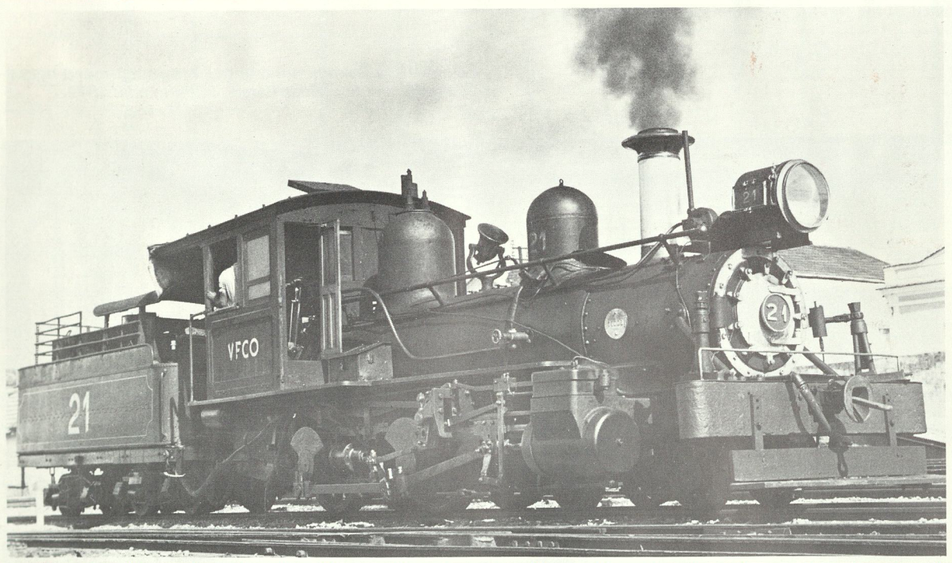






Two of the four 4-4-0's delivered by Baldwin in 1887. (L) #5 "Rio Grande" c/n 8330. (R) #7 "Lavars" c/n 8516

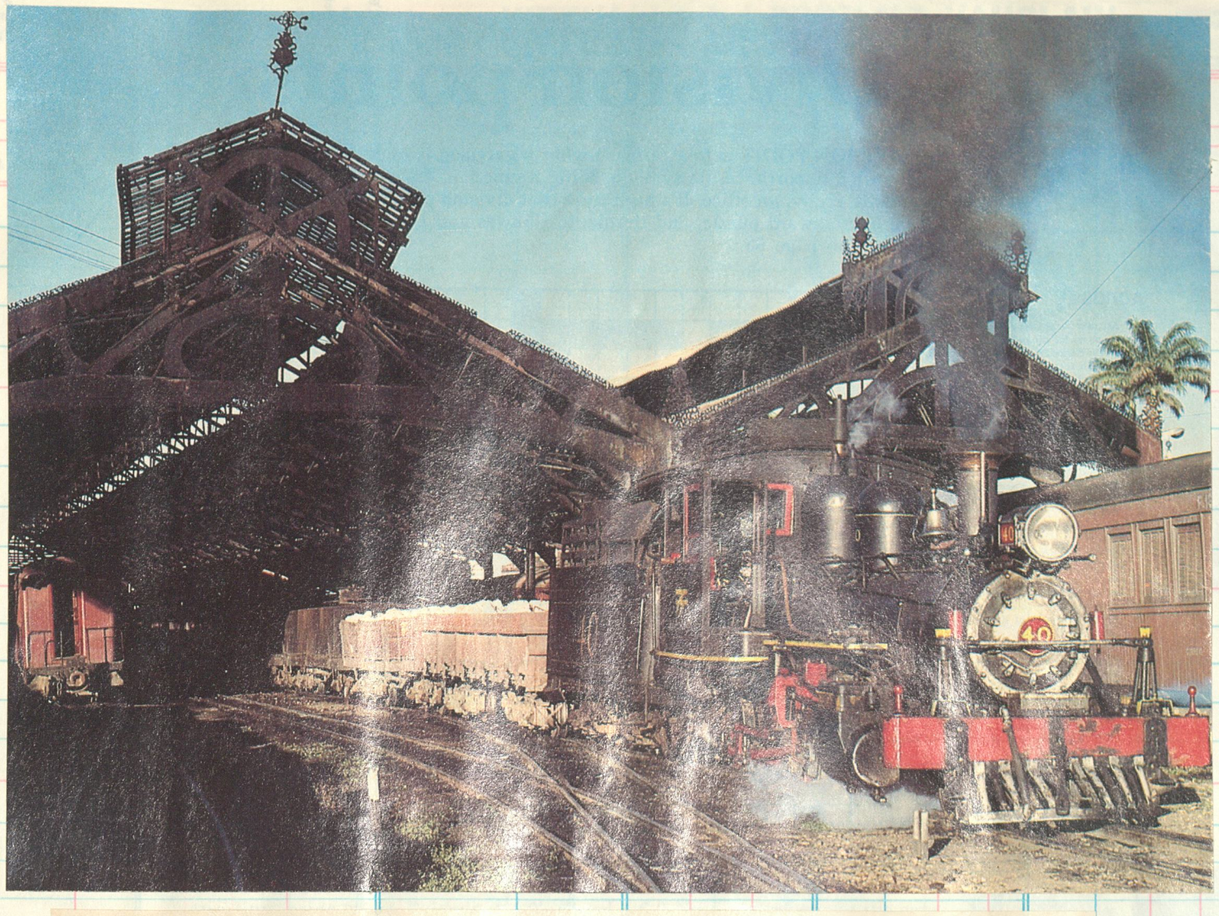
#42 takes 'a pause that refreshes' while enroute with a train of high cars. [Baldwin 1912 c/n 38050]



A 4-4-0, from Baldwin 1912 c/n 38008, fitted with footboards serves as a yard engine.

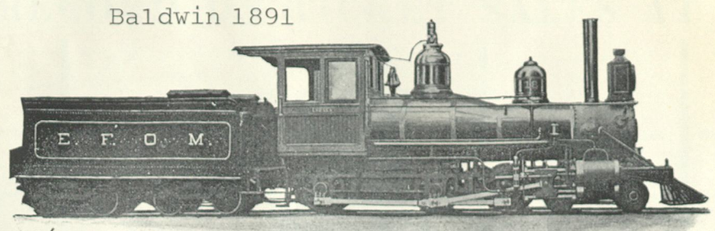
A 2-8-0 and a pair of Ten wheelers relax at Antonio Carlos

2-8-0 #58, Baldwin 1893 c/n 13829, with her primero train under the train shed at San Joao del Rei.



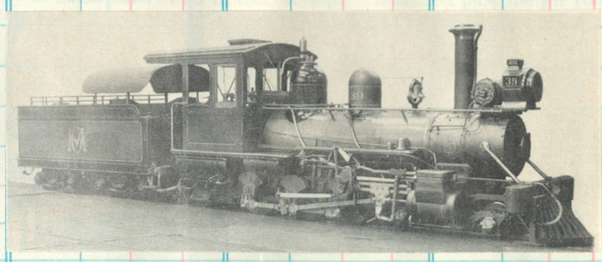
Ready for another trip to Antonio Carlos, Ten wheeler #40 [Baldwin 1912 c/n 38010] waits at Sao Joao del Rei.

Baldwin 1891

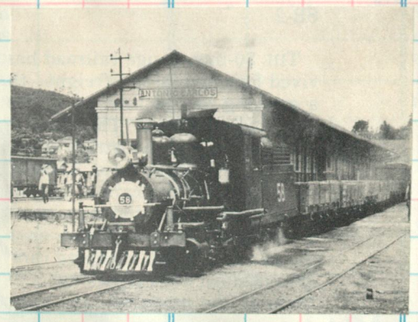


c/n 11608 "Indaya" #18

TEN-WHEEL NARROW-GAUGE FREIGHT LOCOMOTIVE, OESTE DE MINAS, BRAZIL.

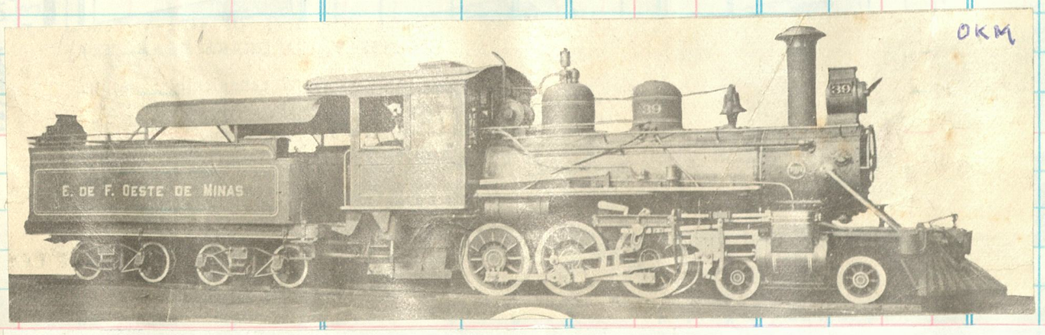


#39 was one of three 4-6-0's delivered by Baldwin in 1911. C/n 37082 Renoed 37.

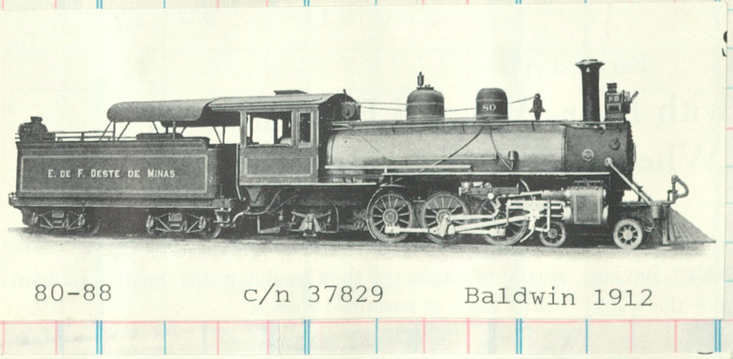


METER GAUGE

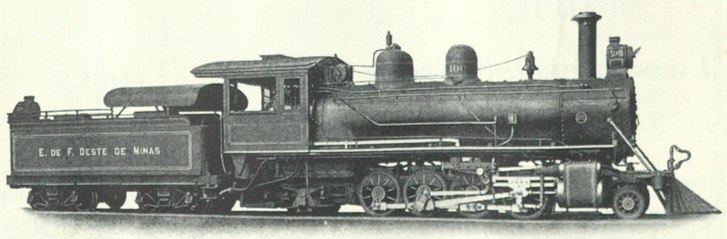
OKM



A pair of meter gauge Ten wheelers built by Baldwin in 1912



80-88 c/n 37829 Baldwin 1912



100-108 c/n 38155 Baldwin 1912

Fig. 3349—Three-Cylinder Pacific (4-6-2) Type Locomotive, Built for Oeste de Minas, E. de F. (Brazil) by [illegible]

Baldwin 1925 c/n 58883 Nos 165-170

Gage	3 ft. 3⅜ in.	Evaporative heating surface, total	1,359 sq. ft.
Cylinders (three)	14 in. x 20 in.	Superheating surface	282 sq. ft.
Steam pressure	180 lb.	Grate area	33.4 sq. ft.
Diameter of drivers	46 in.	Weight on drivers	75,600 lb.
Tractive force	19,500 lb.	Weight ot engine	110,150 lb.
Driving wheel base	8 ft. 10 in.	Weight of tender	66,350 lb.
Total wheel base	24 ft. 8 in.	Fuel	Brazilian coal

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PARAGUAY

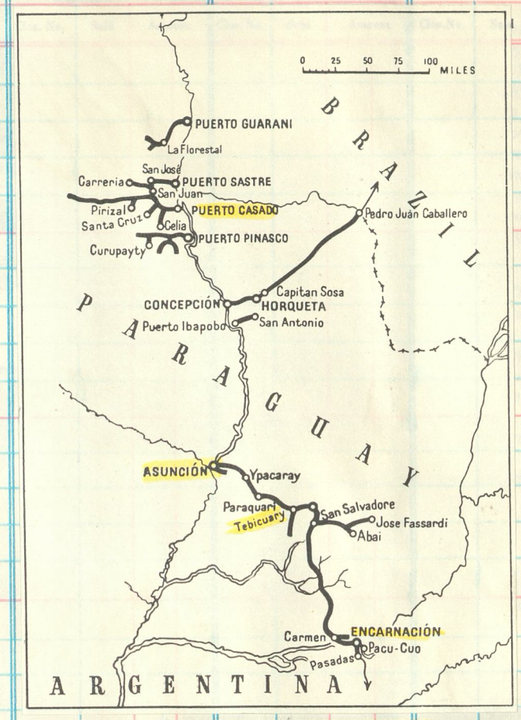
Area: 157,047 sq. mi. Population: 1,425,000
Capital: Asunción Monetary Unit: Guaraní
Largest City: Asunción Form of Govt.: Republic

Clos. No. | Clos. No. | Sold | Amount | Clos.No. | Sold | Amount | Amount | Clos.No. | Sold | Amount

In 1968 the FPCAL operated 296 miles standard gauge and was 100% steam with 25 engines, 436 frt and 57 passenger cars.

Ferrocarril Presidente Carlos Antonio Lopez

'Rolling into the Eighties', a North British 2-6-0 rolls across the Rio Tebicuary. Wood burning #102 was built in 1910 and inscription on the smoke box door reads "Republica del Paraguay 12-X-1861".



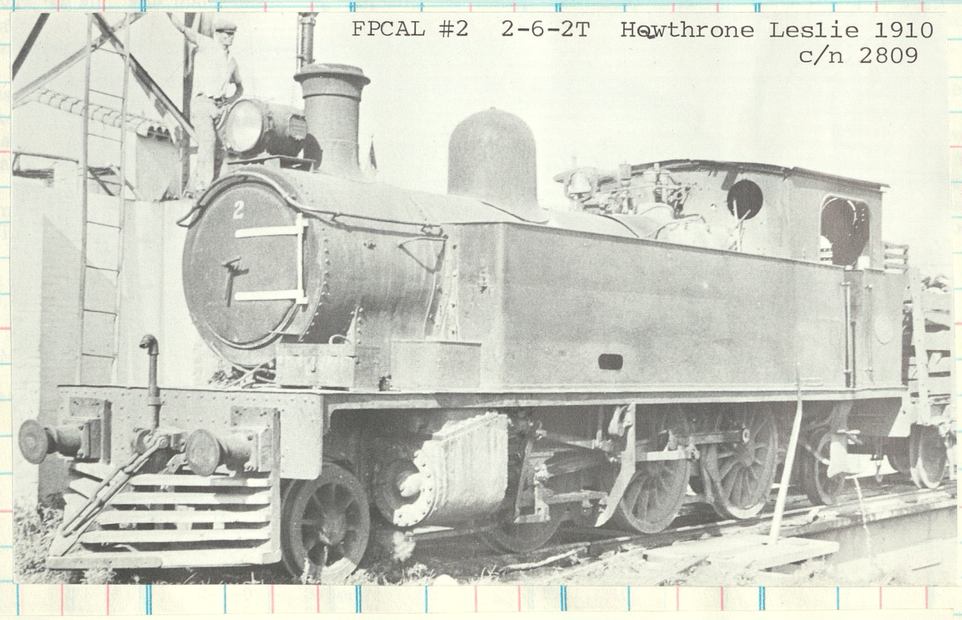
Standard gauge

Paraguay is a landlocked country, 157,000 square miles in area, roughly divided into two parts by the Paraguay River which is navigable, for vessels drawing twelve feet of water, as far as Asuncion, the capital. There are ten separate railways, only two being common carriers, the F.C. Central del Paraguay and the F.C. del Norte, the other eight being purely industrial.

The F.C. Central del Paraguay, at 277 miles (446 km.) length is the longest in the country, extending from Asuncion southeast to Encarnacion and Pacú-Cua, with a branch from San Salvador to Abai. At Encarnacion a train ferry across the River Alto Parana connects at Posadas with the Argentine State Railways (F.C. General Urquiza).

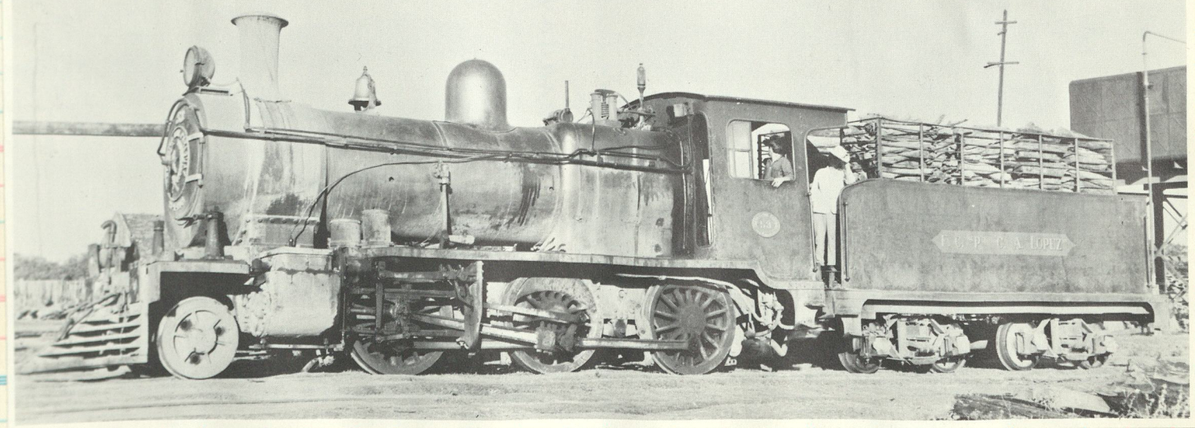
The name of the F.C. Central was changed in 1964 to F.C. Presidente Carlos Antonio Lopez.

FPCAL #2 2-6-2T Hawthrone Leslie 1910
c/n 2809



#58, a Beyer Peacock wood burning 2-6-0 (1910) hauls the weekly train from Asuncion to the Paraguay-Argentina border

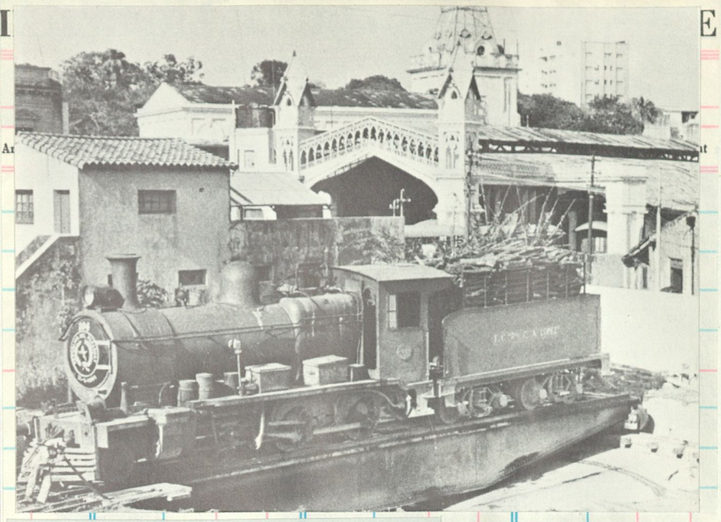
Ferrocarril Presidente Carlos Antonio Lopez #53 s.g. No. British 1910
c/n 19136
[ex Central del Paraguay]



Wood burning 2-6-0's was standard power on the FPCAL

The car ferry slides into Pacu-Cua after crossing the Rio Alto Parana from Pasadas, Argentina

With an abundant pillar of wood on her tender, the 101 (No. British 1910) exits through the city streets departing Asuncion.

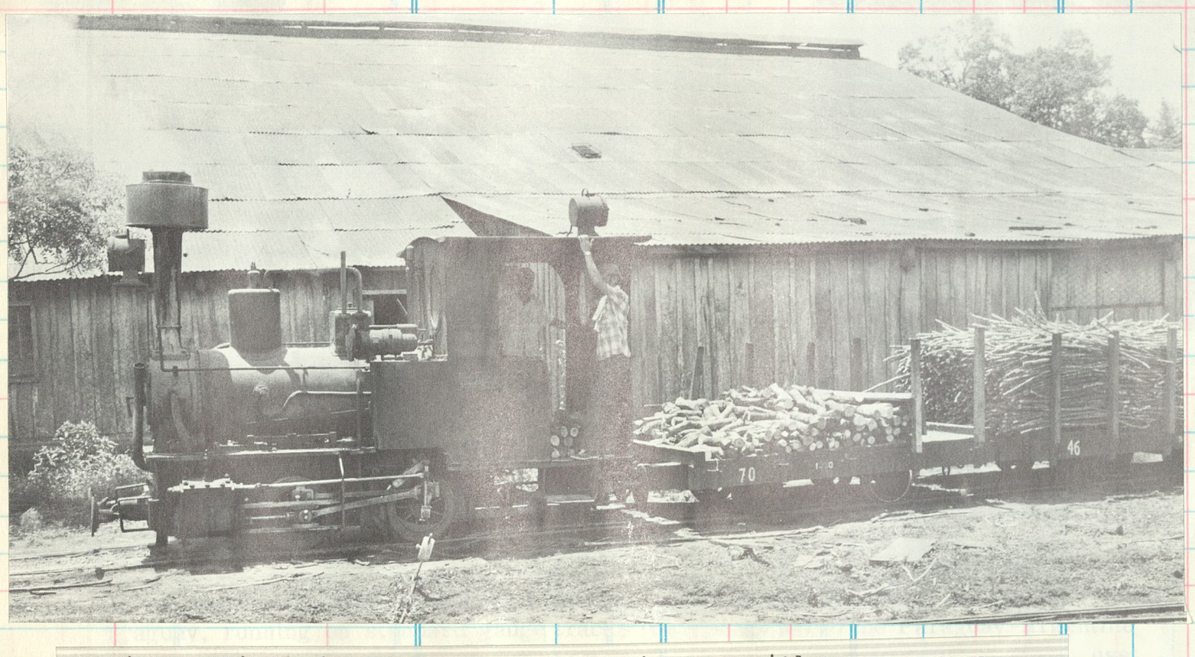


#104, one of over a dozen 2-6-0's delivered by No. British in 1910, rides the table at Asuncion.

A 'tram' on the F C A P b1t by Borsig 1910

R. D. THOM

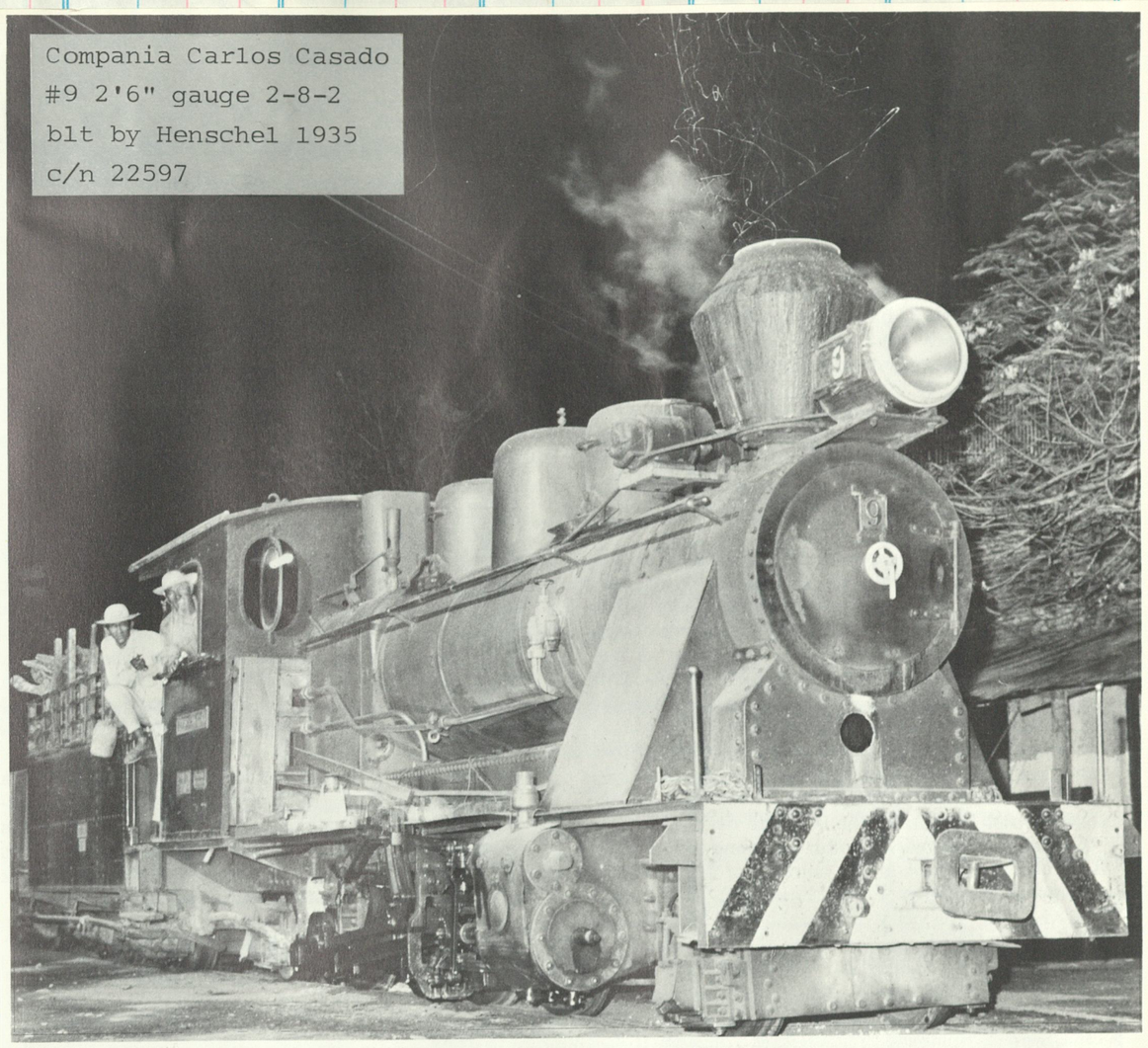
Amount | Clos.No. | Sold | Amount



'Highballing' into the yard at Tebicuary with sugar cane tonnage. This little teapot was built by Orenstein & Koppel in 1906 and works for Ferrocarril Azucarera Paraguaya.

The stub end train shed at Asuncion

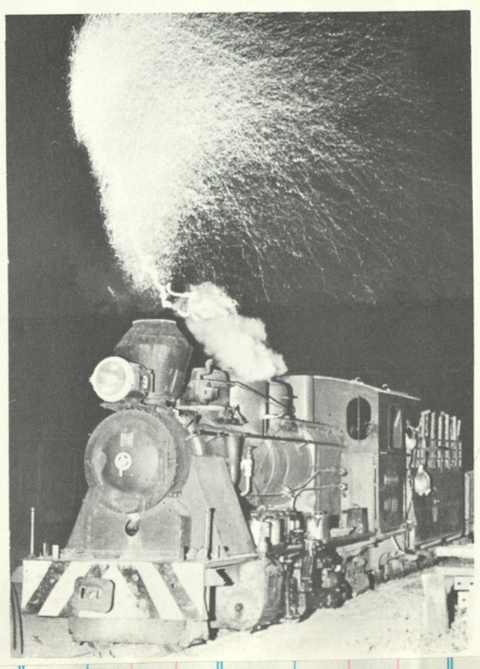
Compania Carlos Casado
#9 2'6" gauge 2-8-2
b1t by Henschel 1935
c/n 22597



Various night views of ember-throwing Henschel Mikado No. 9 at Puerto Casado in Paraguay.
(All: R. Christian)

FPCAL

It's a sweltering high noon as Ten wheeler #226 (b1t No. British 1910, ex F C General Urquiza #226) drifts up to a stop at 'Botanical Gardens'.



Total

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Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos.No.	Sold	Amount

URUGUAY

Area: 72,152 sq. mi.
Capital: Montevideo
Largest City: Montevideo
Population: 2,353,000
Monetary Unit: Peso
Form of Govt.: Republic

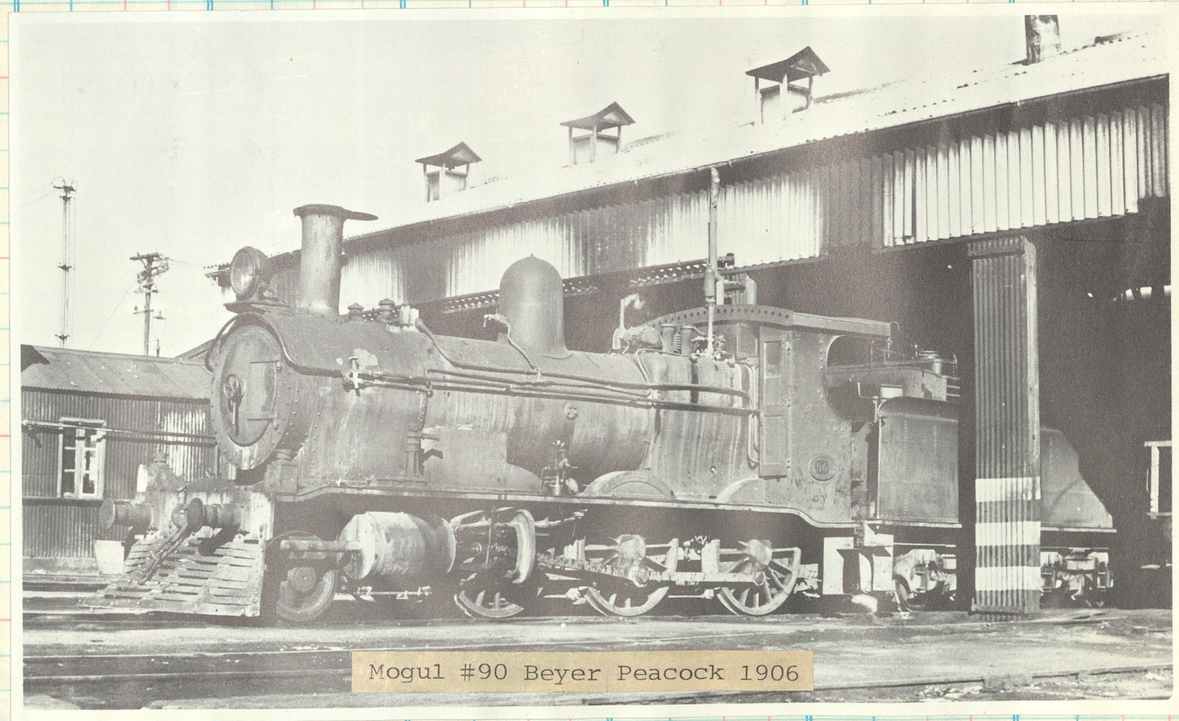
The AdeFdelE was using 156 steam, 186 passenger and 3,560 freight cars over 2,047 miles of standard gauge in 1968

Above: A T class Consolidation inside the glass covered Central station in Montevideo. Local trains have reverted to steam haulage in 1972.

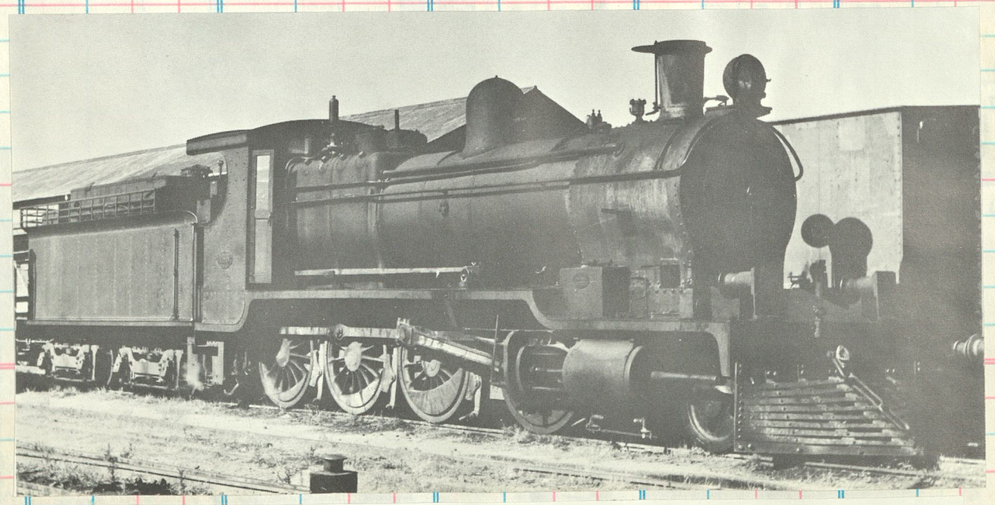
#132-139 Hawthorne-Leslie 1910

Administracion de Ferrocarriles del Estado

The 157, a 2-10-0 blt by Henschel 1950, departing Montevideo



Mogul #90 Beyer Peacock 1906



A Beyer Peacock 2-8-0 (1910) at Paso de los Toros in Uruguay. They were converted from 2-6-0s in 1938

102

FNGB

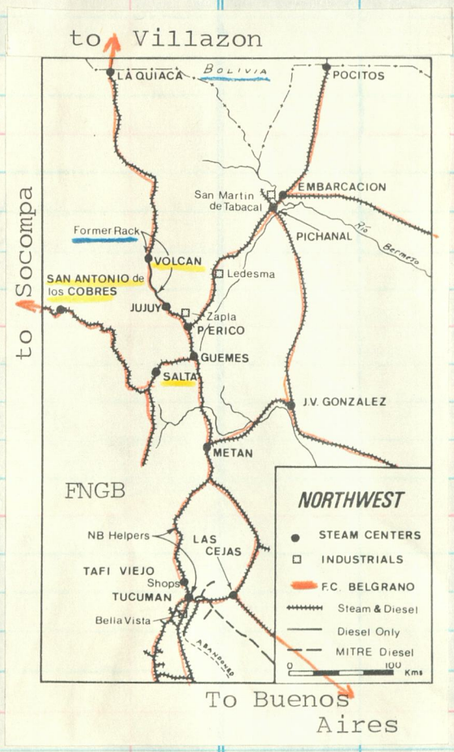
Ferrocarril Nacional General Belgrano

Meter Gauge

F. C. General Belgrano Meter gauge

General Belgrano tracks are found almost everywhere in Argentina. This meter-gauge system is the largest and most comprehensive in the country and possesses four of the five international passenger routes out of the country. These include the famous Transandino and the line to Antofagasta in Chile, and two lines that enter Bolivia to the north. An estimate of the number of steam locomotives still in service totals approximately 500 with twenty-seven classes being represented. (1972)

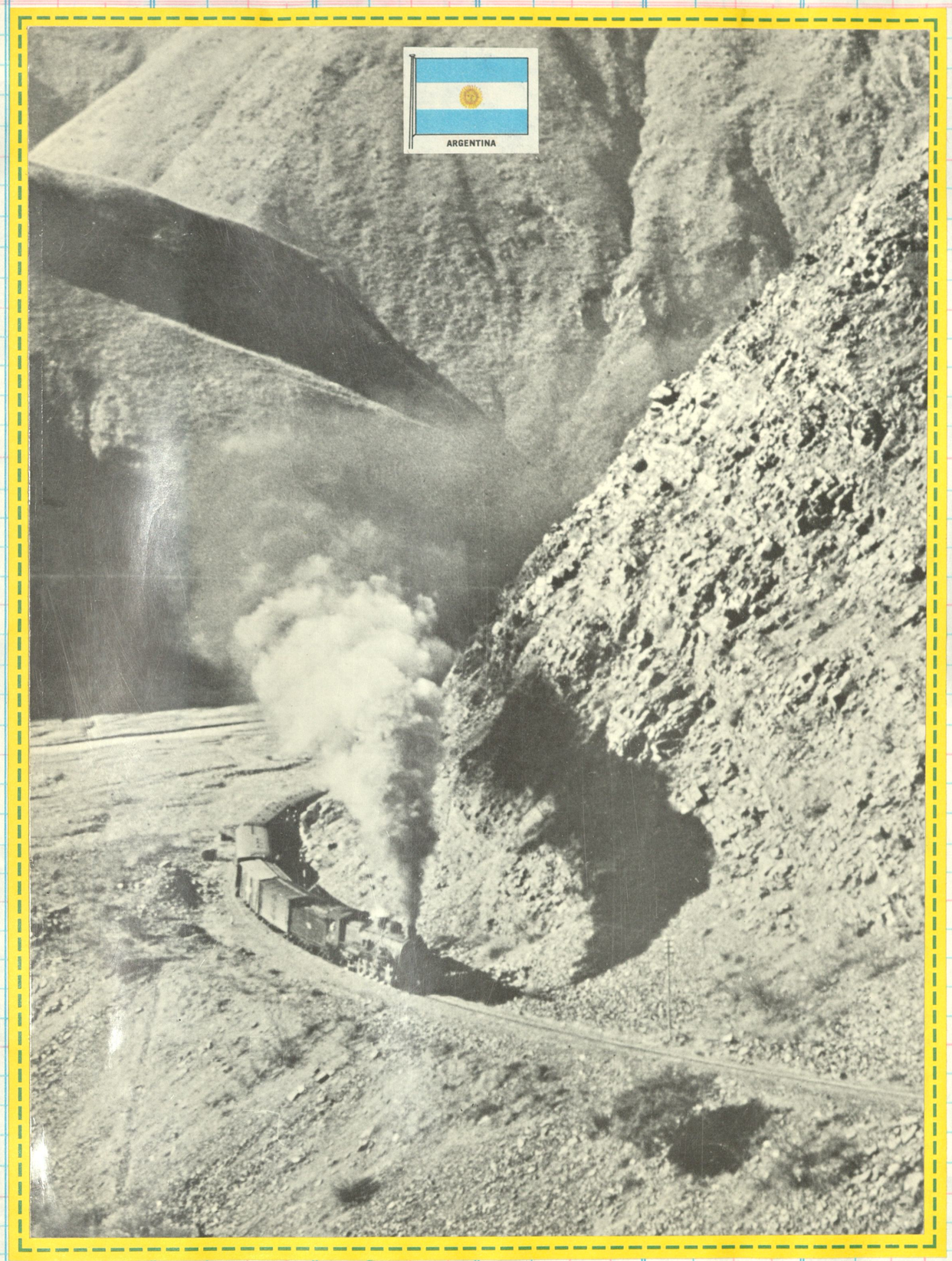
As of 1968 the FNGB was operating 11,047 miles with 883 steam engines, 24,599 freight and 867 passenger cars



Detailed map on Page 105

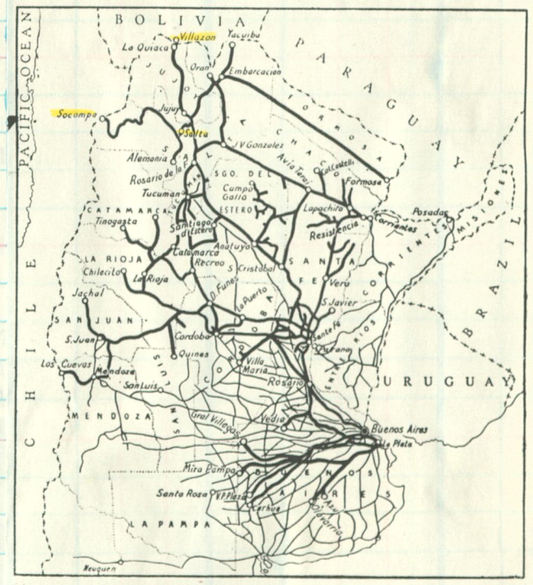
ARGENTINA

Area: 1,084,359 sq. mi. Population: 17,196,000
Capital: Buenos Aires Monetary Unit: Peso (Argentine)
Largest City: Buenos Aires Form of Govt.: Federal Republic



FNGB The weekly Transadino passenger charges through the rugged canyons west of Salta enroute to Socompa and the Pacific coast at Antofagasta, Chile.

F.C. GENERAL BELGRANO



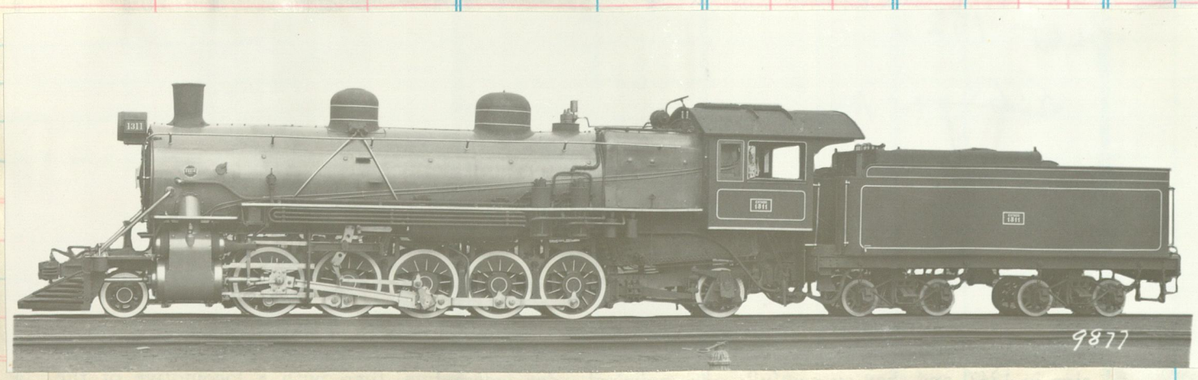
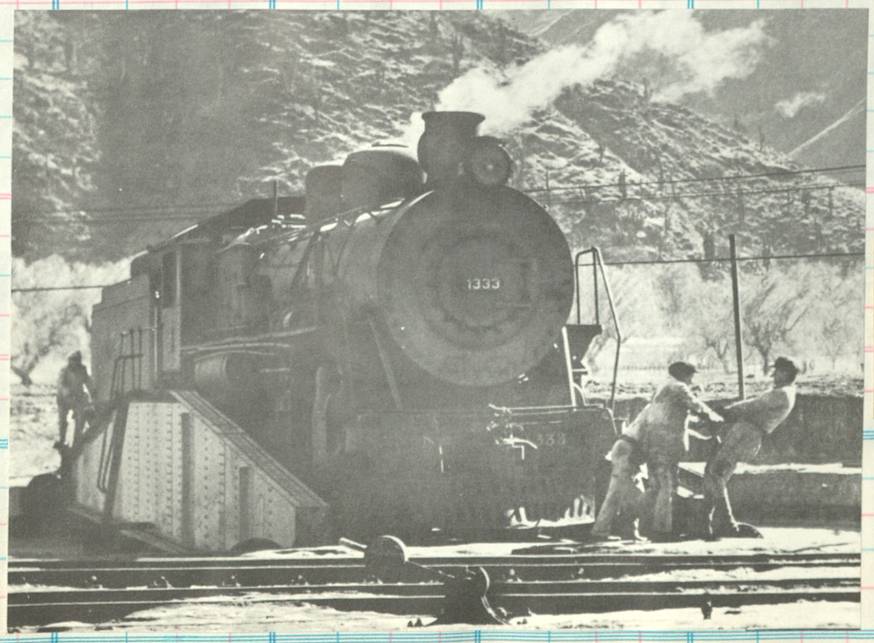


Fig. 3341—Santa Fe (2-10-2) Type Locomotive Built for Argentine State Railways by The Baldwin Locomotive Works.

Gage	Meter	Total wheel base	34 ft. 1 in.
Cylinders, diameter and stroke	22 in. x 28 in.	Fuel	Oil
Tractive force	41,000 lb.	Grate area	44 sq. ft.
Drivers, diameter	48 in.	Steam pressure	200 lb.
Weight on drivers	161,000 lb.	Evaporative heating surface	2,643 sq. ft.
Weight of engine	198,000 lb.	Superheating surface	705 sq. ft.
Driving wheel base	17 ft. 4 in.	Tender capacity	4,500 gal.—2,000 gal.

The second order for 2-10-2's delivered by Baldwin. Noed 1311-1330 built in 1926 (c/n 59614). By 1949 FNGB operating 61 similar engines.



The 1333 relaxes as she enjoys a ride on the merry-go-round at Volcan, one of fifteen Santa Fe's [1331-1345] supplied by Henschel in 1937

1972

Above: Four 2-10-2s at the San Antonio de los Cobres shed.

A station stop at Ingeniero Maury

One of the fifteen, 1346-1360, 2-10-2's built by Skoda 1949.
This is the 1355 drifting into the E1 Alisal switchback.

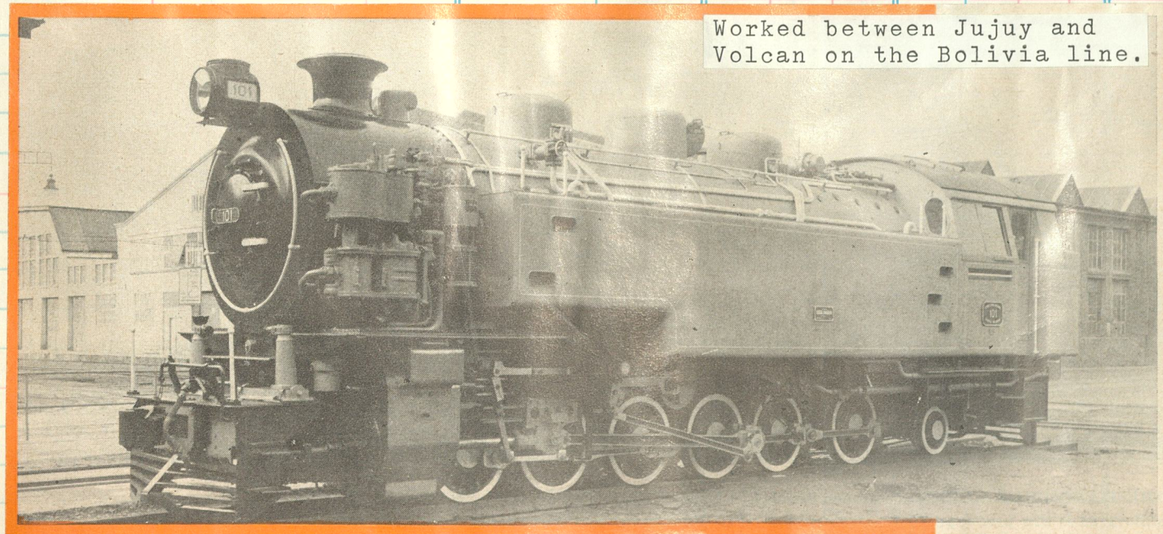
104

Rio Rosarie Viaduct

Passenger-hauling 2-10-2 crosses bridge on way from Salta to San Antonio, Argentina, Aug. 1972.

A Henschel pollutes the thin atmosphere of the high Andes as she assults the grade west of Salta.

Worked between Jujuy and Volcan on the Bolivia line.

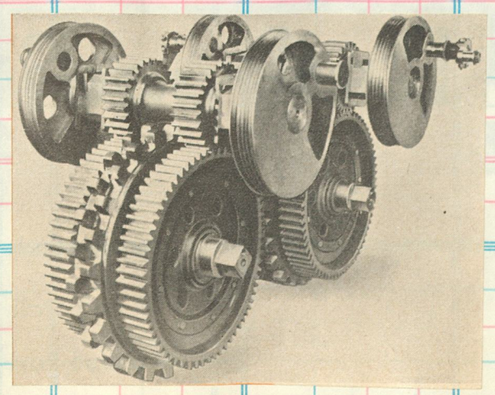


100-101 Esslingen 1954

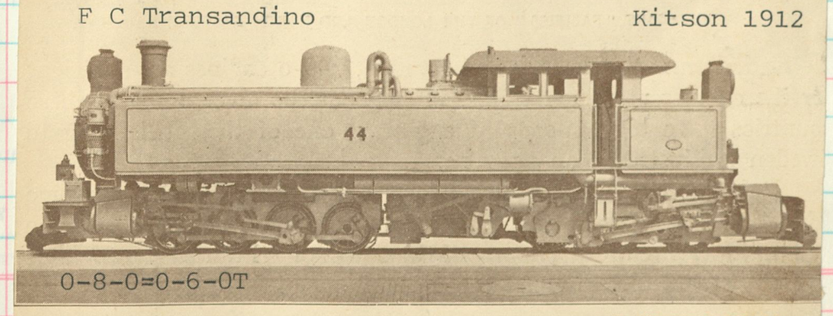
In the mountainous region of the Andes the Belgrano's meter-gauge (3-foot 3⅜-inch) track connects its country with Bolivia and Chile. The locomotives replace engines supplied 50 years ago by the same company. The new engines are twice as heavy as the old ones and have six coupled axles, one trailing dead axle, and two cog wheels. Separate valves for axles and cog wheels are incorporated in the same cylinder block. Running on a plain or negotiating a slight rise the locomotives operate in the ordinary way; cogged-wheel motion is not engaged until mountainous terrain calls for cogged rail.

With a service weight of 121 tons and an adhesion weight of 109 tons, the 0-12-2 produces, with its coupled axles alone, the tractive effort of the largest German Federal Railways steam freight engine, a 2-10-0. Cog wheels provide 50 per cent more tractive effort. The cog wheels are driven via a countershaft; thus it is possible for cog-wheel cylinders to be so small that the cog-wheel valve gear is mounted over the drivers.

At least nine coupled, or driving, axles would be required in an orthodox locomotive to haul trains of the same weight — and then only if it was an articulated. — DATA AND PHOTOS FROM HANS F. KUTSCHBACH.



F C Transandino Kitson 1912



0-8-0=0-6-0T

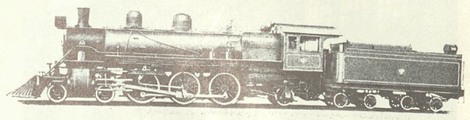
COMBINED RACK AND ADHESION LOCOMOTIVE, ARGENTINE TRANS-ANDINE RAILWAY.

Clos. No. | Sold | Amount | Clos. No. | Sol | t | Clos.N | unt

F General Belgrano station - Buenos Aires

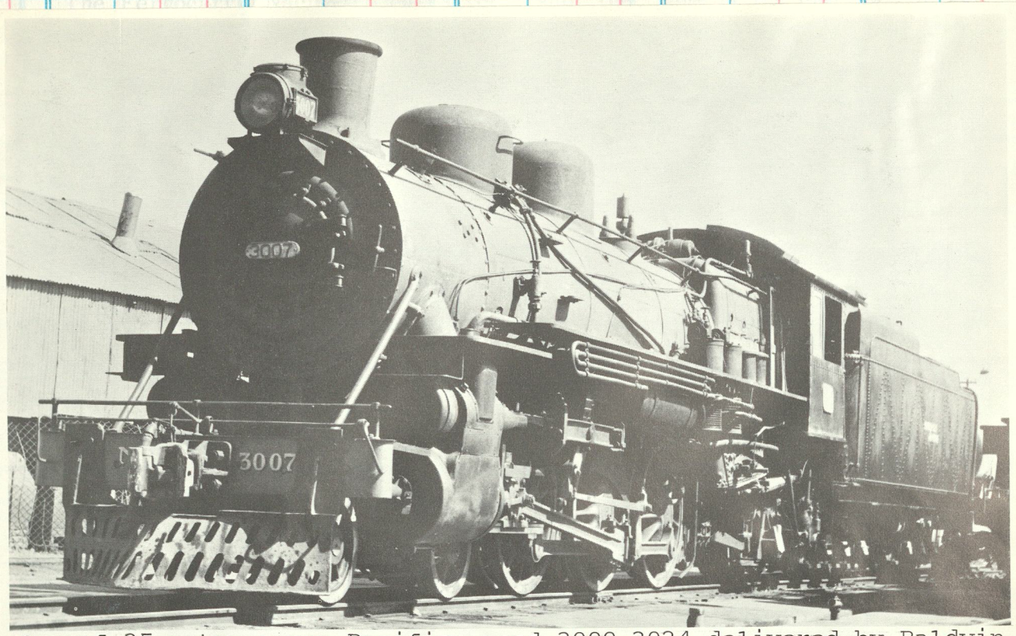
F N G B route Salta to Socompa.

355 miles max grade 2.5% 21 tunnels 13 viaducts rail 75# construction started in 1933, completed 1948 and thru service started June 1948.



PACIFIC TYPE LOCOMOTIVE
For the Argentine State Rys.
Cylinders, 20" x 26" Driving Wheels, Diam., 60" Weight, Total Engine, 170,000 lb.

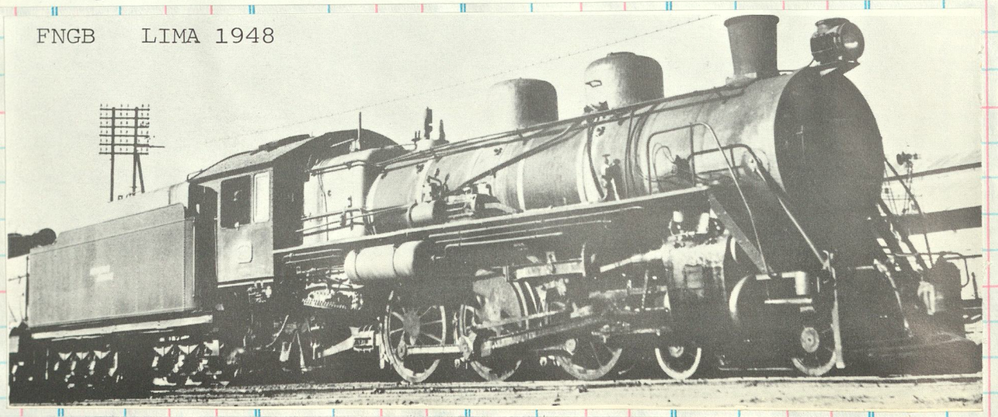
BLW 1922

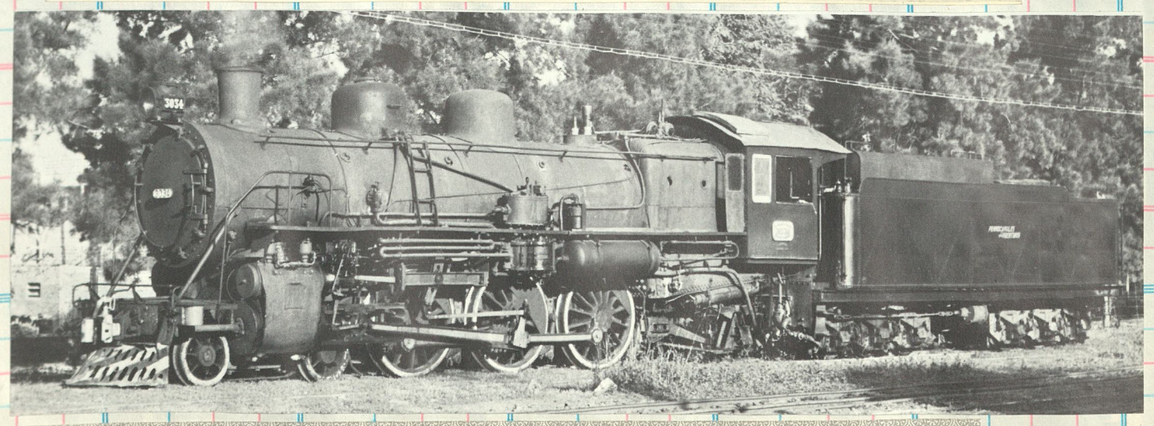


One of 25 meter gauge Pacifics noed 3000-3024 delivered by Baldwin to Argentine State Ry (FNGB) in 1922. #3007 c/n 55215

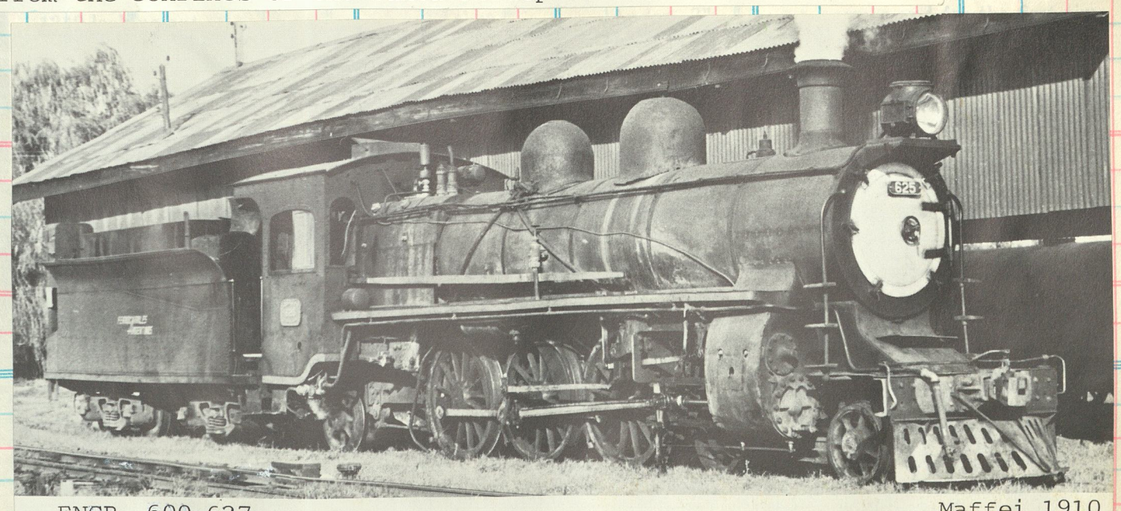
FNGB A Baldwin 4-6-2, #3023 1922 c/n 55231, ready to depart from the confines of the Santa Fe depot.

FNGB LIMA 1948





In 1948 LIMA constructed fifteen classic 4-6-2's for the Argentine State noed 3026-3040. Bottom is the 3034 c/n 9295. Note the 12 wheel tender, an outstanding engine for meter ga.



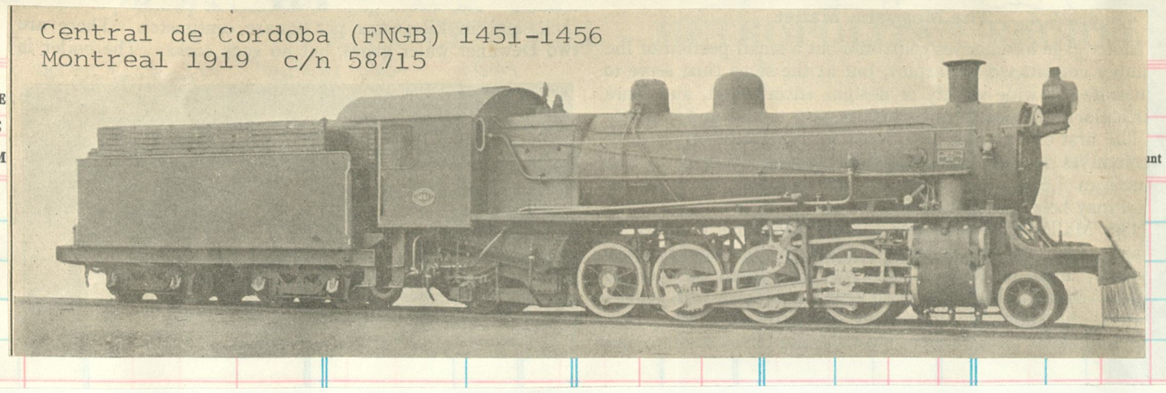
FNGB 600-627 Maffei 1910

106

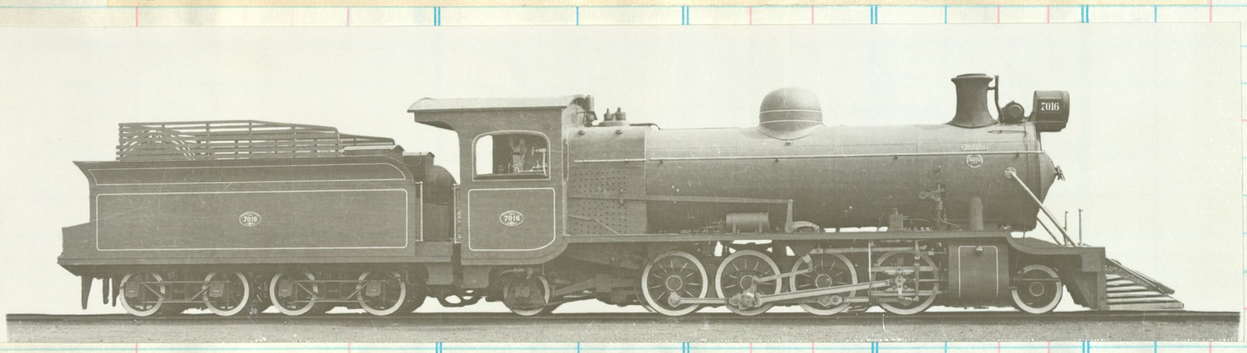
SELLE
DATE
FORM

Sold Amount

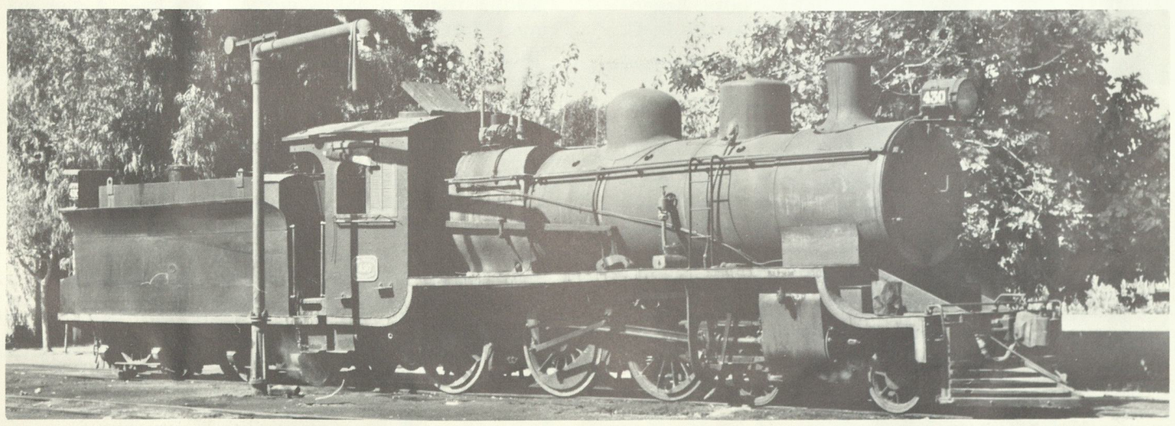
Central de Cordoba (FNGB) 1451-1456
Montreal 1919 c/n 58715



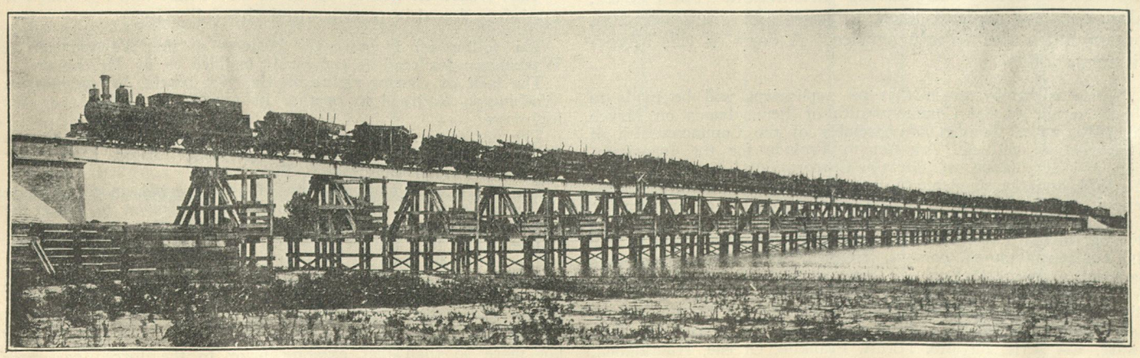
An additional fifteen 2-8-2's was delivered to the Central Cordoba By Montreal in 1920 noed 1463-1477. #1472 c/n 62647



Wood burners 7000-7024 built by Baldwin for Argentine State in 1920. c/n 53472

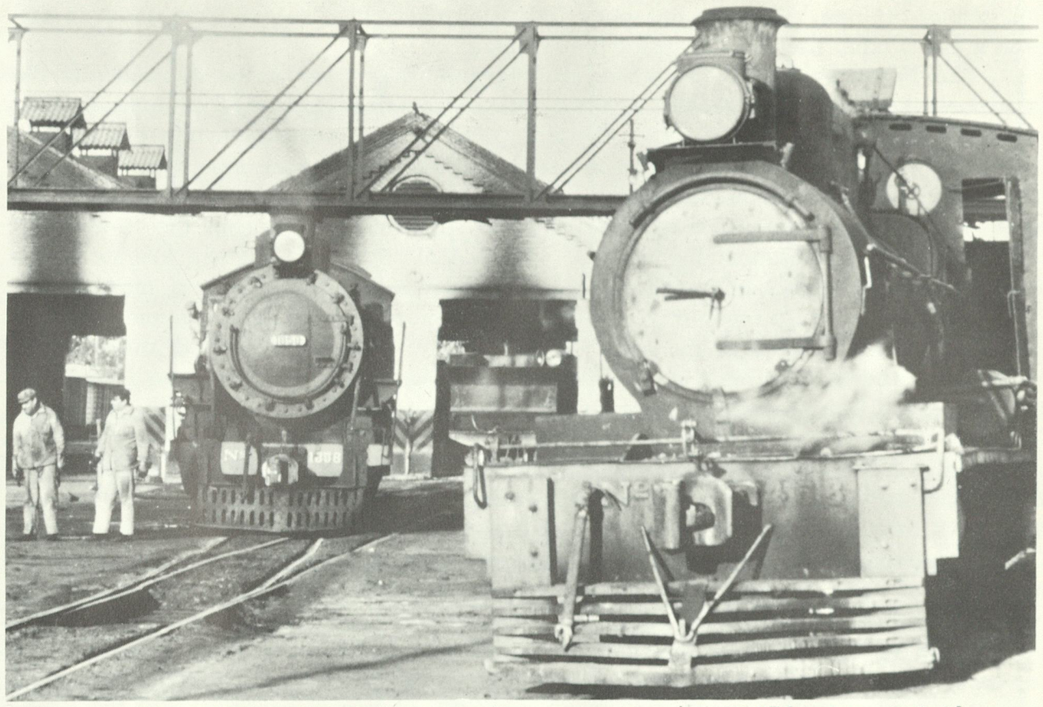


FNGB #430 4-6-0 Borsig 1909



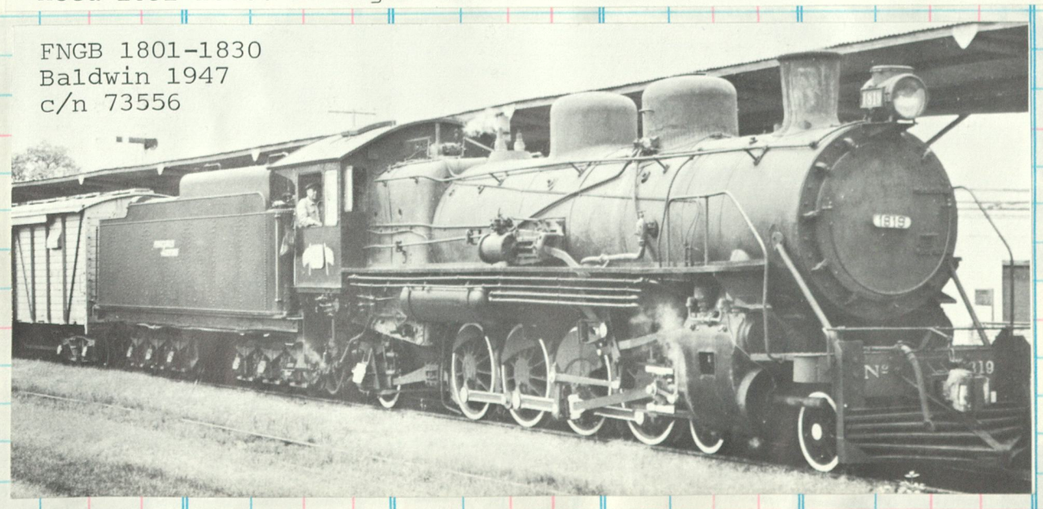
Trainload of Quebracho Logs, Santa Fe Railway, Argentina [FNGB]

Retiro Station of the Central Argentine Railway, Central Cordova Railway Station Adjoining It on the Right and the Buenos Ayres & Pacific Railway Station Adjoining That on Extreme Right. British Tower (a Present to the City of Buenos Ayres) in the Foreground 1925

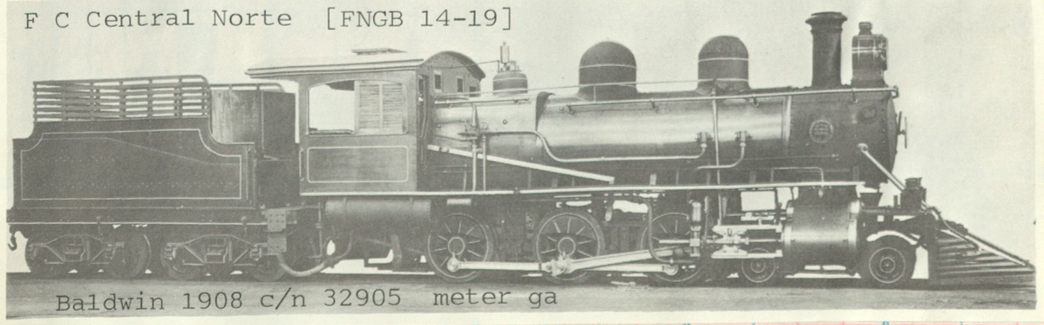


The engine shed at Cordoba FNGB. On left is #1858, one of the thirty 4-8-2's from Schenectady in 1948. c/n 75822. Group was noed 1831-1860. At right is a Kerr-Stuart Ten wheeler. blt 1909.

FNGB 1801-1830
Baldwin 1947
c/n 73556

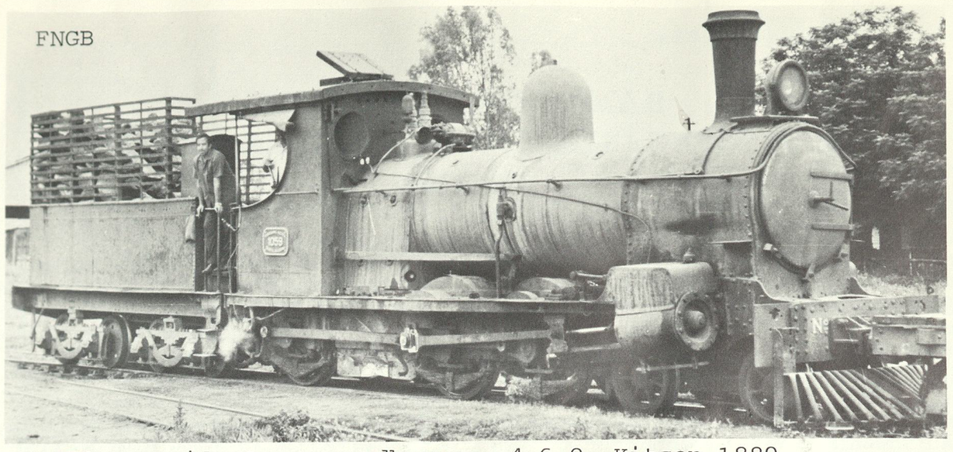


F C Central Norte [FNGB 14-19]



Baldwin 1908 c/n 32905 meter ga

FNGB

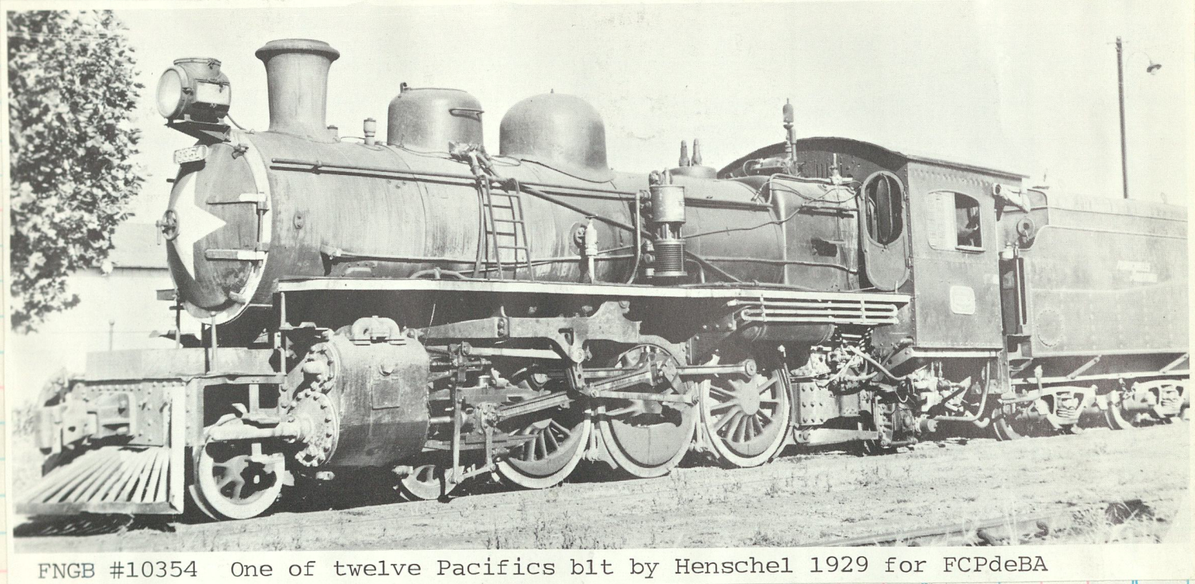


#1059, outside frame woodburner, 4-6-0, Kitson 1889

A 0-6-4T 'pilot' engine at Buenos Aires. #2109 built by Kitson in 1911.

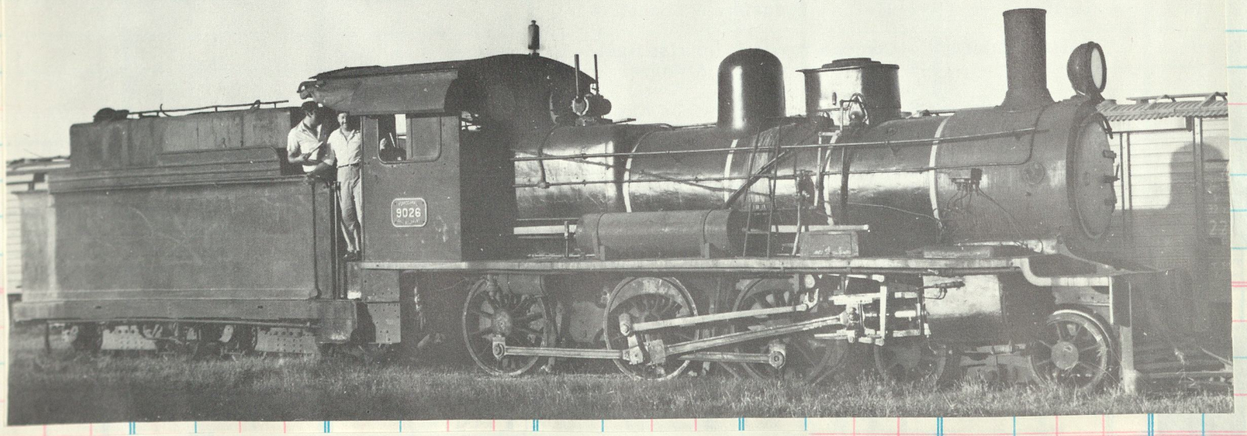
The photographer receives a vigorous wave from the fireboy as a Nydquist & Holm Pacific #10165, blt 1924, departs the Avellaneda Station, Buenos Aires.

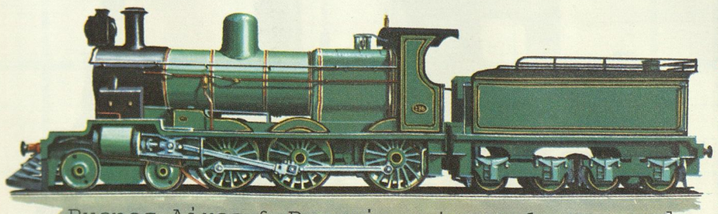
FNGB 4-6-0 blt by SACM-Grafenstaden in 1907 for Compania General



FNGB #10354 One of twelve Pacifics blt by Henschel 1929 for FCPdeBA

FNGB #9026 (ex FCM) meter ga North British 1909





Buenos Aires & Rosario - two cyl compound
(Compania General) FNGB

108

FNGR

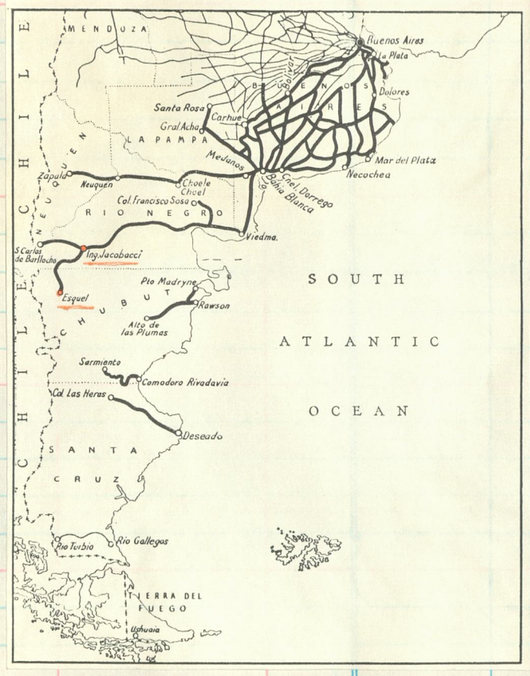
Ferrocarril Nacional General Roca

Gauges 5'6" & 2'6"

F. C. General Roca 5 ft. 6 inch gauge

With an estimated 260 serviceable steam engines in late 1972, the Roca has the most steam of any of the broad-gauge lines in Argentina. Although many steam centers are now away from Buenos Aires out on the pampa, several 2-6-2T engines can be found working daily in the heart of the capital. Tandil, 200 miles to the southwest, is the largest remaining depot with over 45 steam locomotives assigned. Remedios de Escalada near Buenos Aires maintains more engines but they are spread over five separate locations. Ingeniero White, near Bahia Blanca, is another steam center with a pleasing variety of British-built engines. To many rail enthusiasts, no doubt, the 250 mile long 75 cm. gauge branch from Ingeniero Jacobacci to Esquel is the most interesting; there Baldwin and Henschel Mikados — frequently doubleheaded — blast their tiny trains out into the wilds of Patagonia.

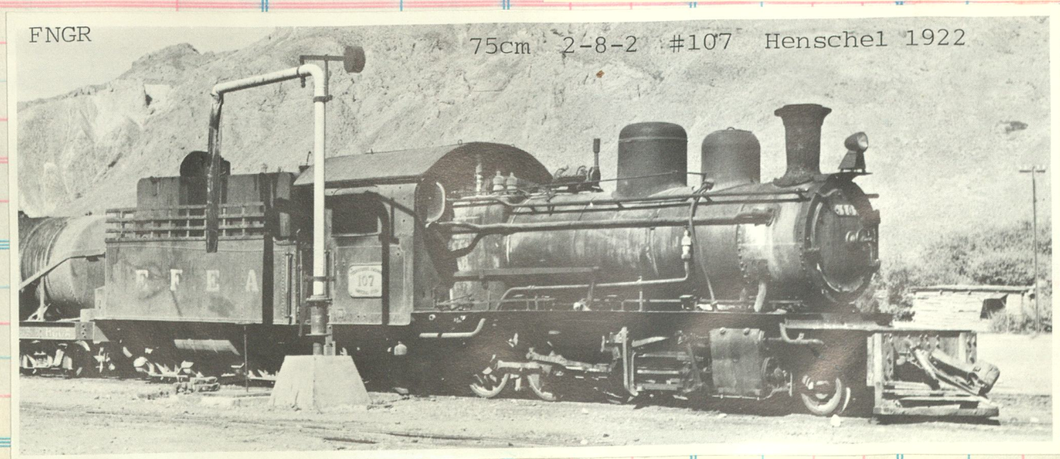
F.C. GENERAL ROCA

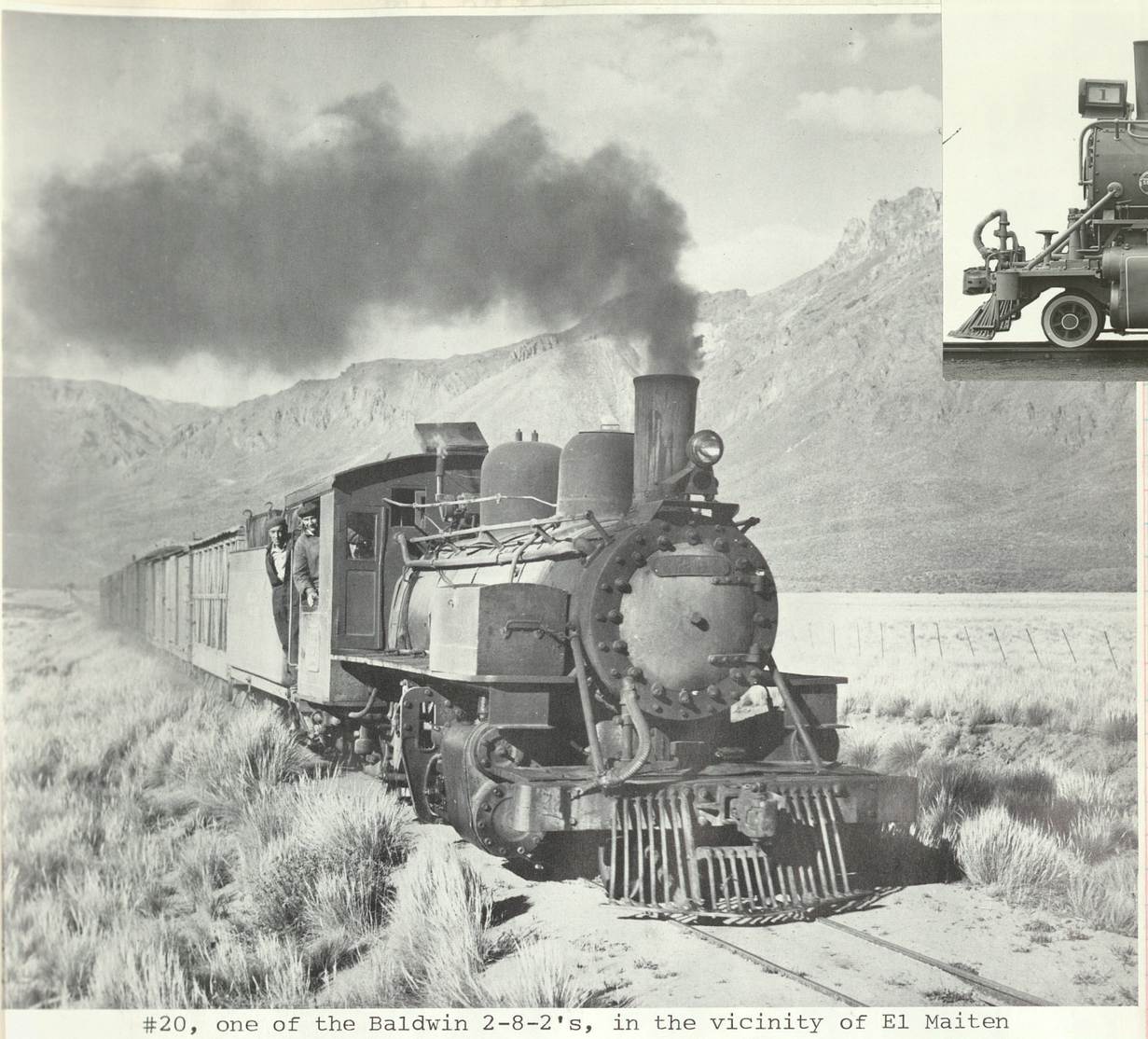


The FNGR operated 6,642 miles using 635 steam engines with 16,252 freight and 1,209 passenger cars. (1968)

A little train wends its way in the enormous expanse of Patagonia. This is on the 75cm gauge Esquel branch and the date was Nov 14, 1978!!

Sunrise finds a Henschel Mike drifting along with ten cars approaching Esquel.



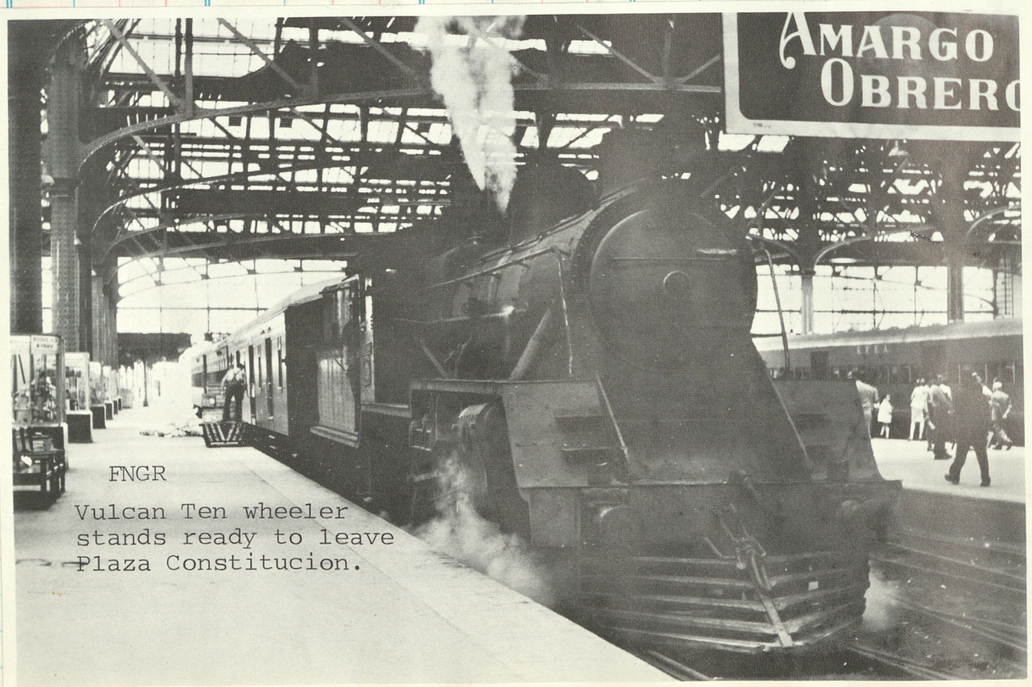


#20, one of the Baldwin 2-8-2's, in the vicinity of El Maiten

The initial engine of twenty five [Nos 1-25] ordered from Baldwin in 1922 by the Argentine State for the Esquel branch. c/n 55429

Positive proof that steam still survives!! Here, on November 25, 1989, the sixty seven year old Baldwin 2-8-2 storms along with a Esquel passenger as vigorous as ever!

BROAD GAUGE -- 5'6"



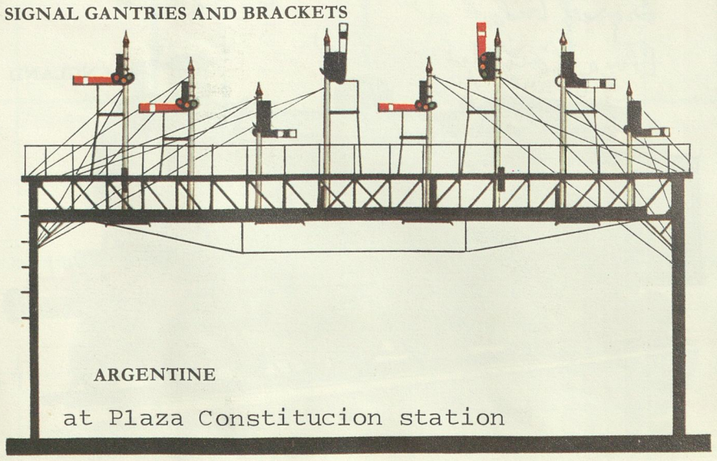
FNGR

Vulcan Ten wheeler stands ready to leave Plaza Constitucion.

Plaza Constitución Station, Buenos Aires (1925)

A North British [1906] 2-6-2T arriving Plaza Constitucion with passengers from the Buenos Aires suburbs.

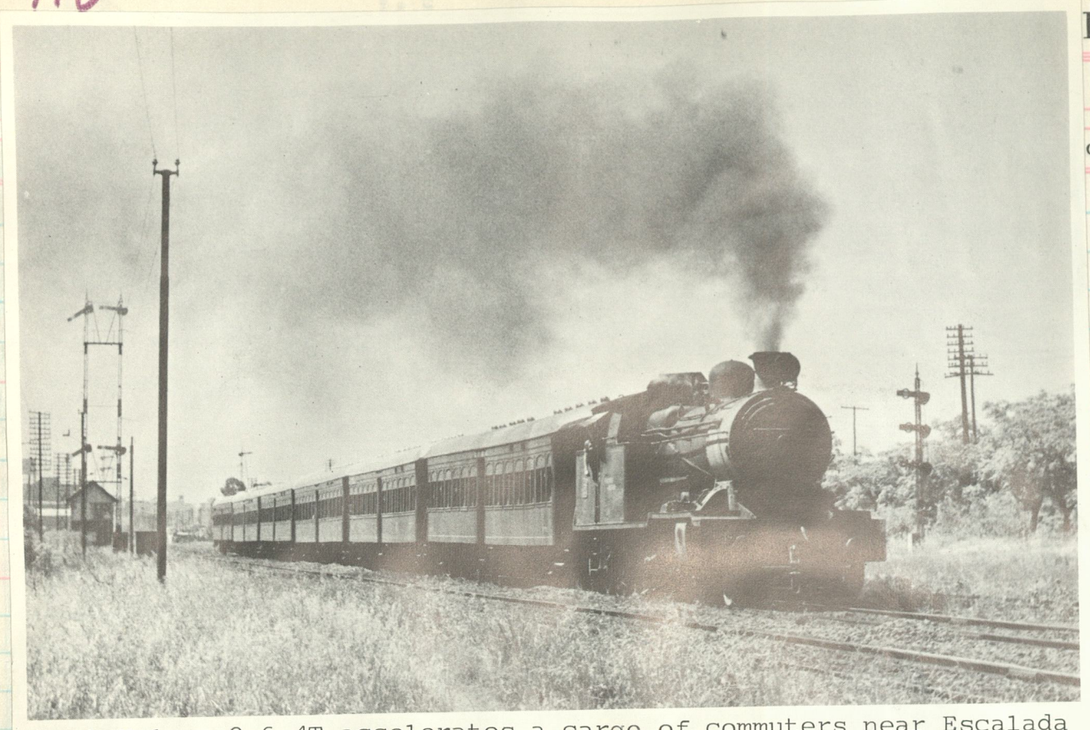
SIGNAL GANTRIES AND BRACKETS



ARGENTINE

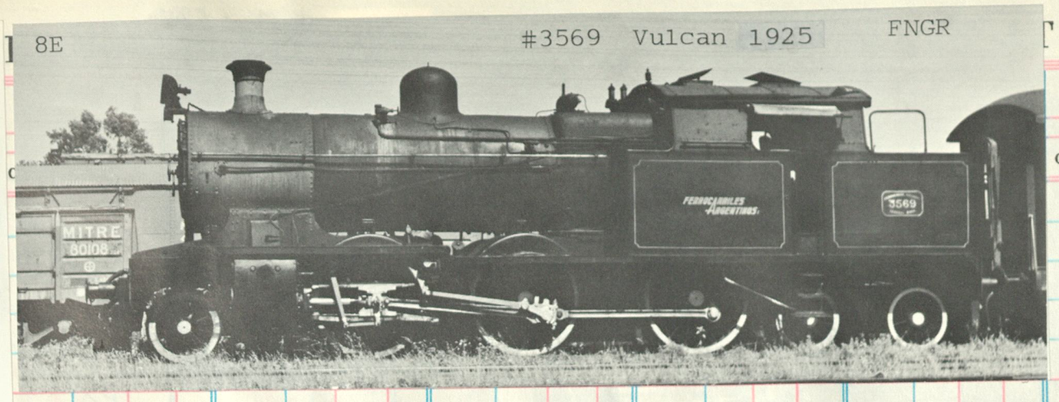
at Plaza Constitucion station

167 **Buenos Aires Great Southern Railway**: gantry of



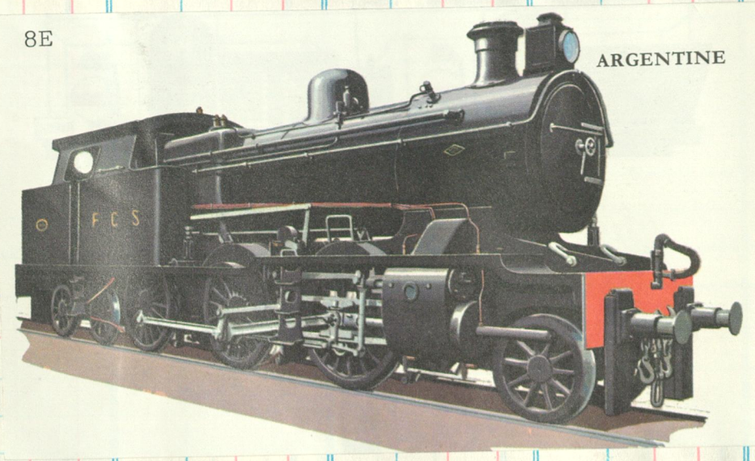
A Vulcan 2-6-4T accelerates a cargo of commuters near Escalada

8E #3569 Vulcan 1925 FNGR



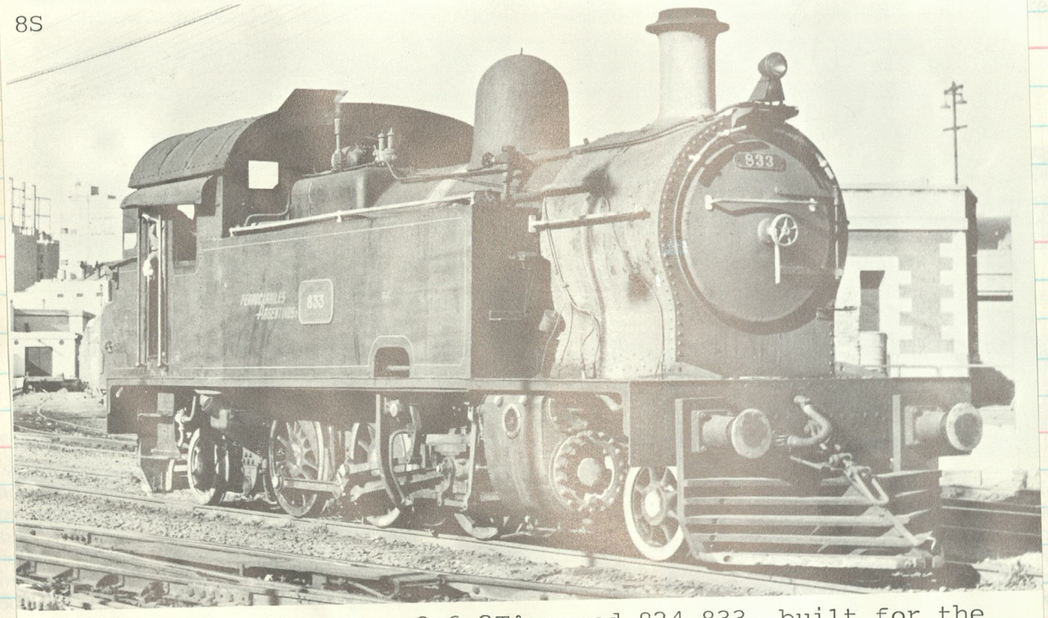
Clos. No.	Sold	Amount	Clos.No.	Sold	Amount

8E ARGENTINE



Sixty class 8E 2-6-4T's for the B A G S built 1925-1930

8S

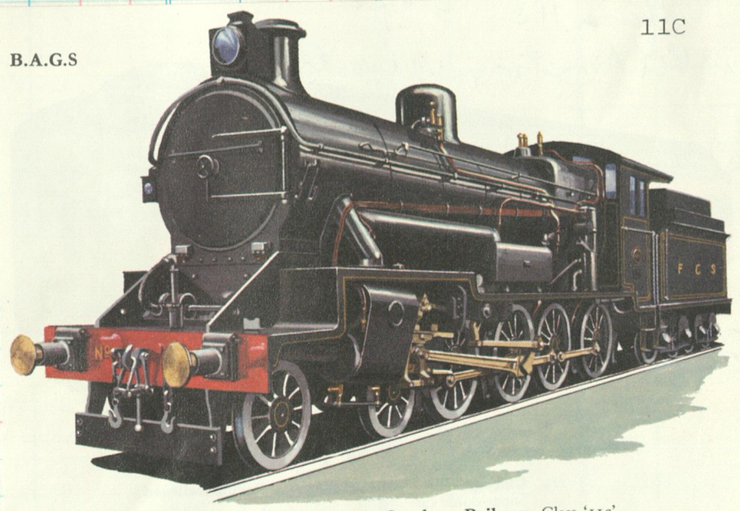


FNGR - #833, one of ten 2-6-2T's noed 824-833, built for the Buenos Aires & Western by Armstrong Whitworth in 1921

The 4-8-0's were popular. One hundred delivered 1923 -1927 to B A G S

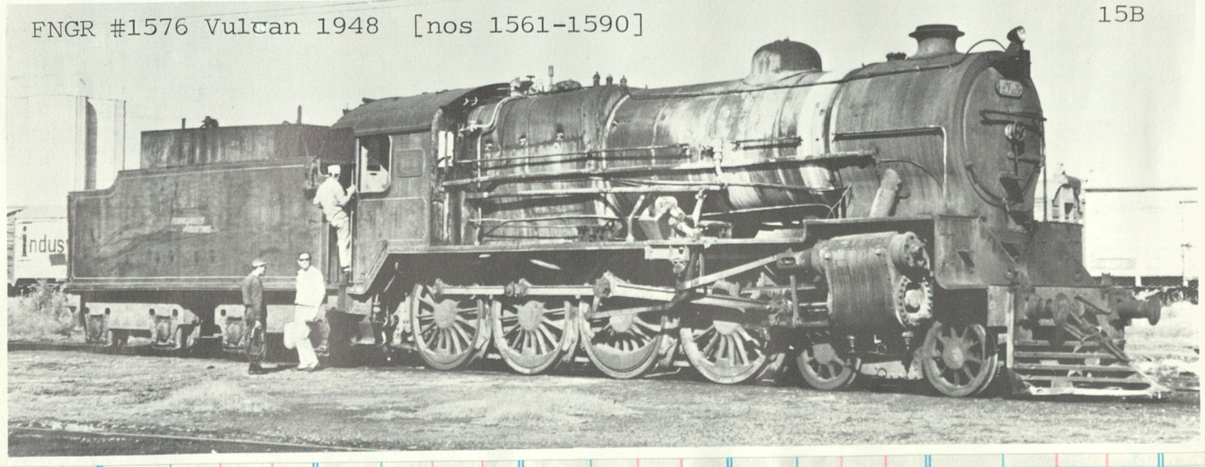
11C

B.A.G.S

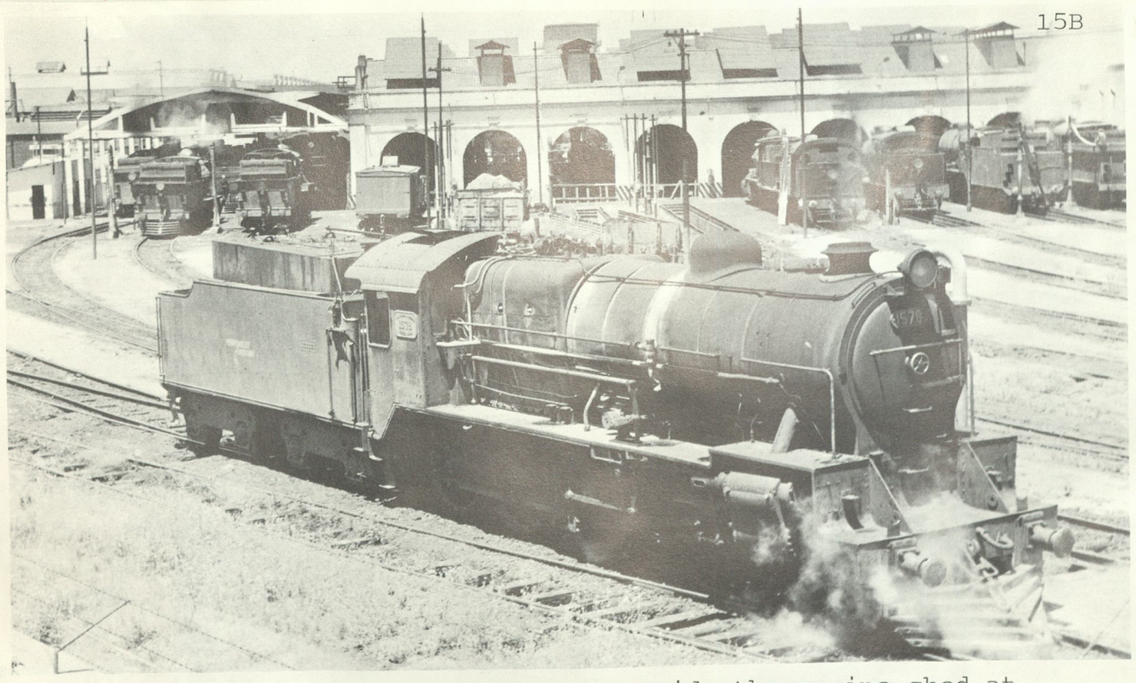


121 **Buenos Aires Great Southern Railway**: Class '11C' 4-8-0 heavy goods engine (oil fired).

FNGR #1576 Vulcan 1948 [nos 1561-1590] 15B

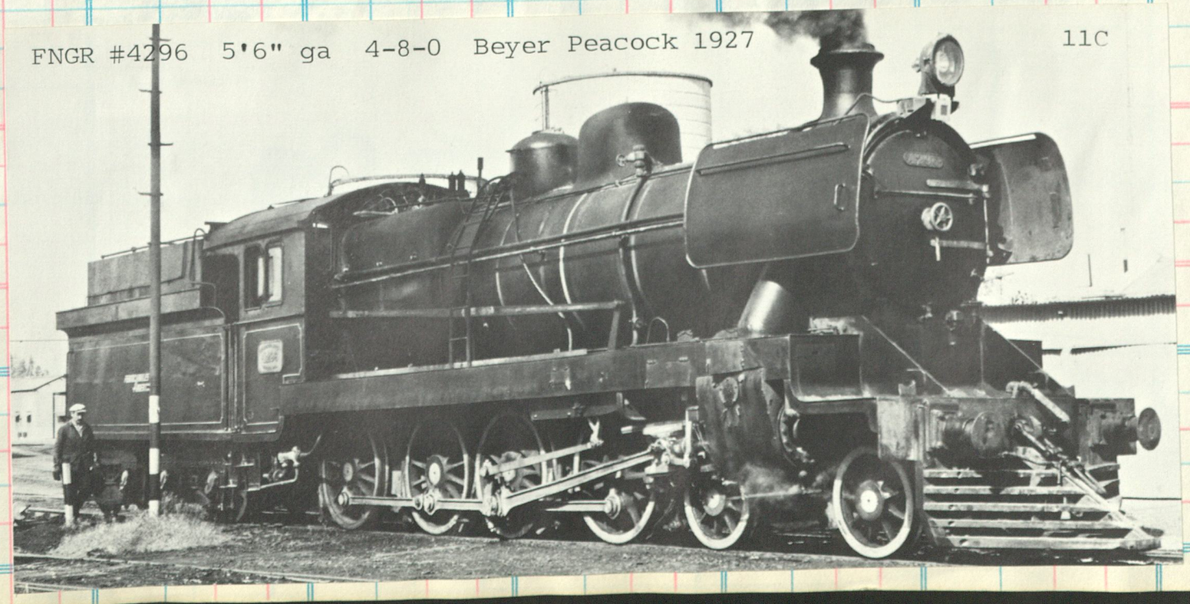


15B



#1578, one of the Vulcan 4-8-0's, outside the engine shed at Escalada

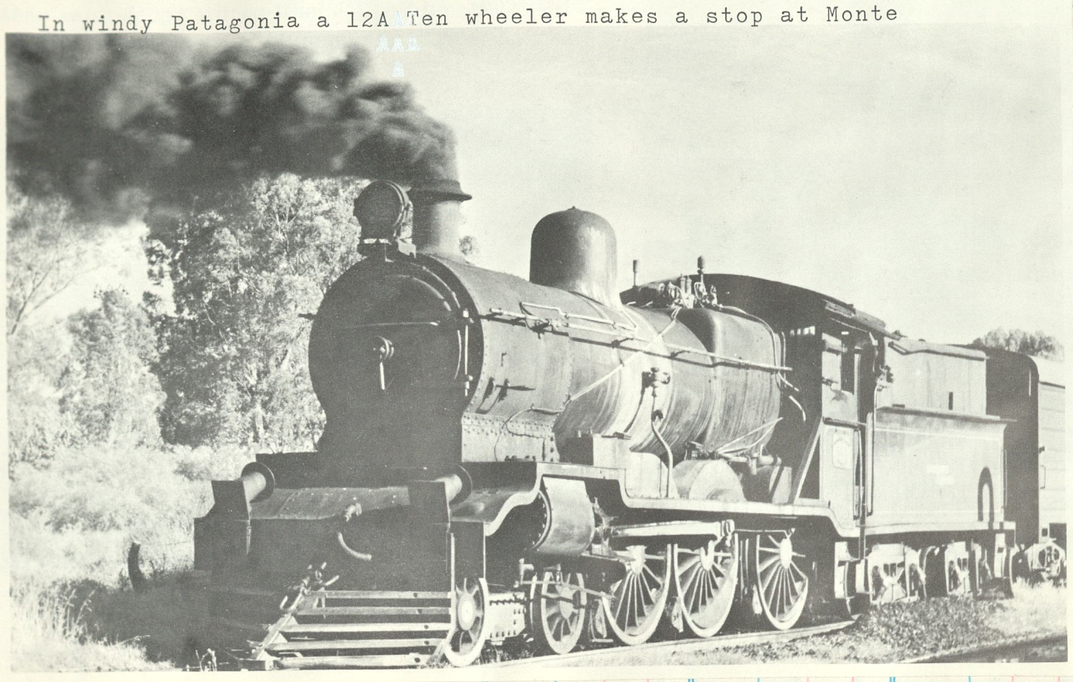
FNGR #4296 5'6" ga 4-8-0 Beyer Peacock 1927 11C



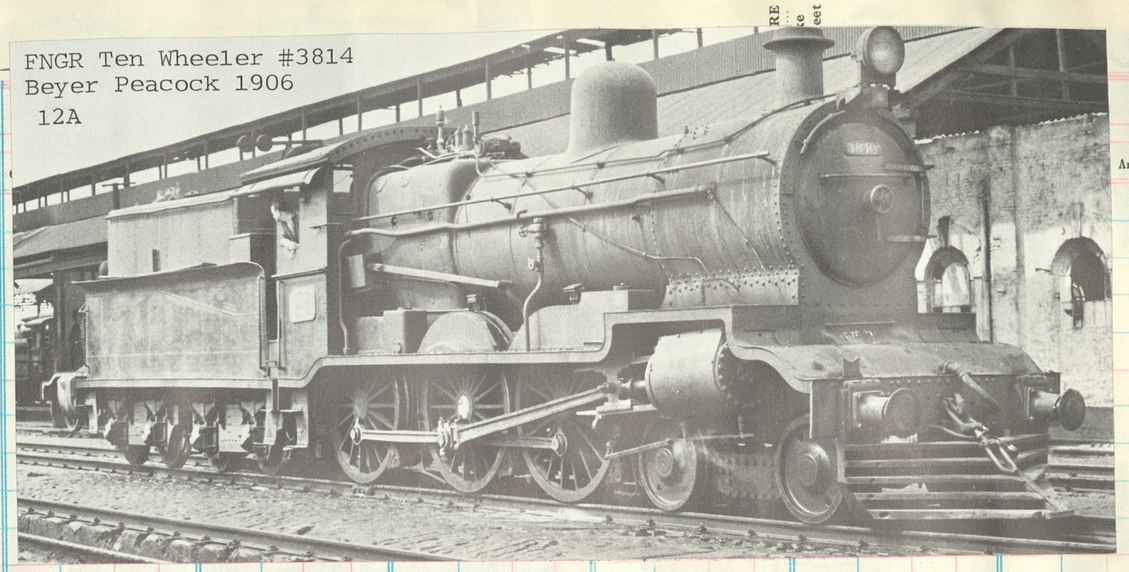
Total

Class. No. | Sold | Amount

In windy Patagonia a 12A Ten wheeler makes a stop at Monte

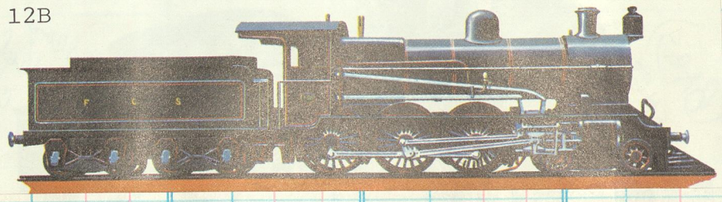


FNGR Ten Wheeler #3814
Beyer Peacock 1906
12A



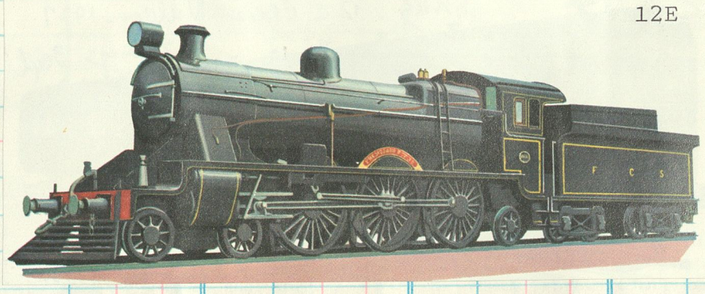
111

12B



A 4 cyl Ten wheeler blt by Vulcan 1906 for the Buenos Aires Great Southern.

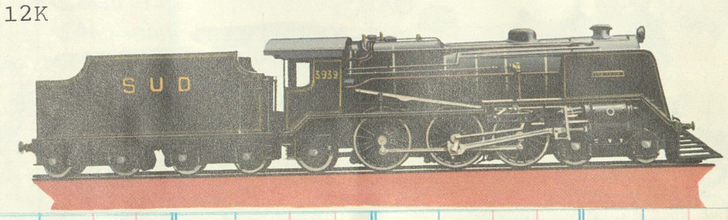
12E



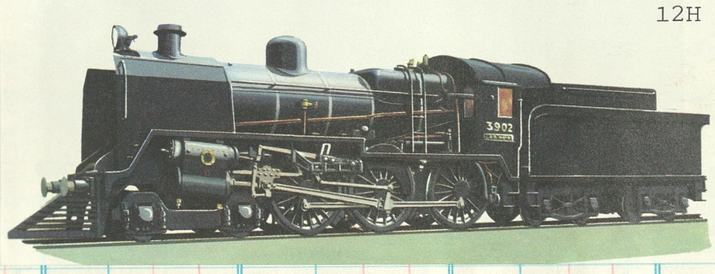
Vulcan built 21 of these 3 cyls 4-6-2's for the B A G S in 1927

B A G S 3939-3950
Blt by Vulcan 1939

12K



12H



4-6-0's nos 3901-3909 were delivered by Vulcan in 1938.

FNGBM

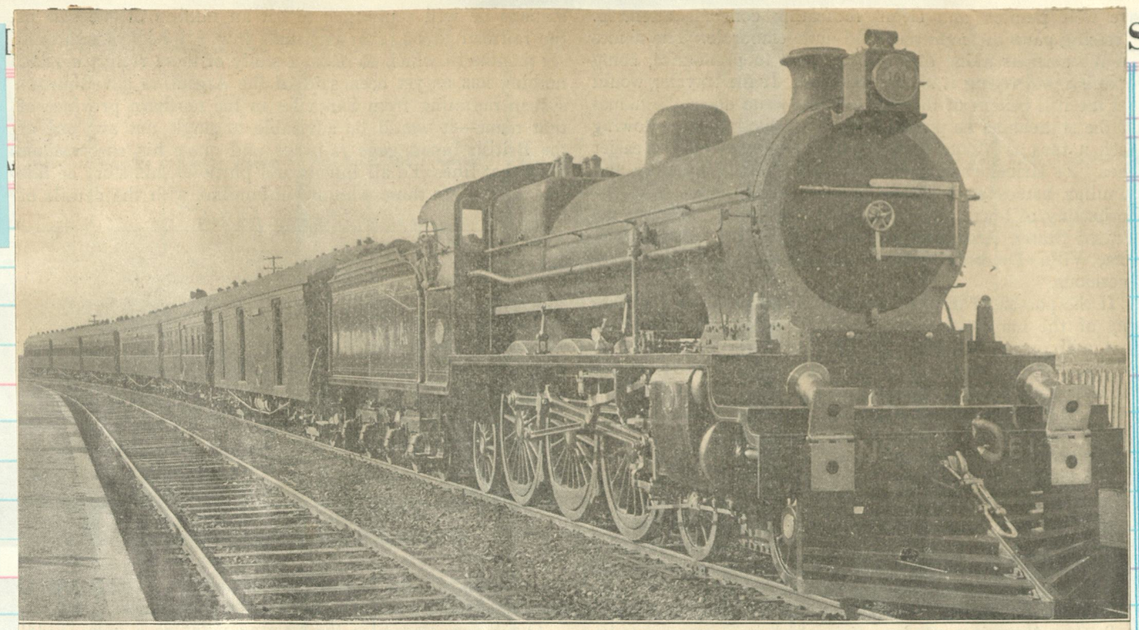
Ferrocarril Nacional General Bartolome Mitre

Gauge 5'6"

SALES AT

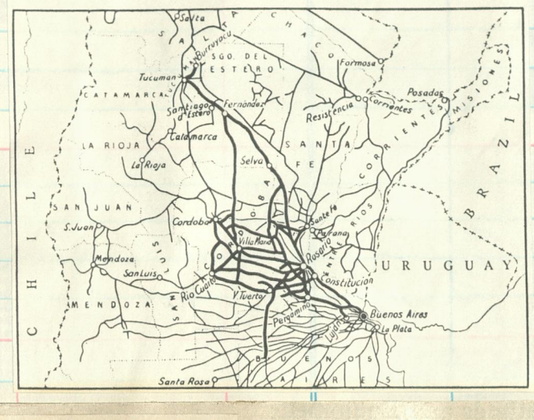
Clos.No. Sold

In 1968 the FNGBM was operating 5,594 miles still using 607 steam engines with 19,036 freight and 632 passenger cars.

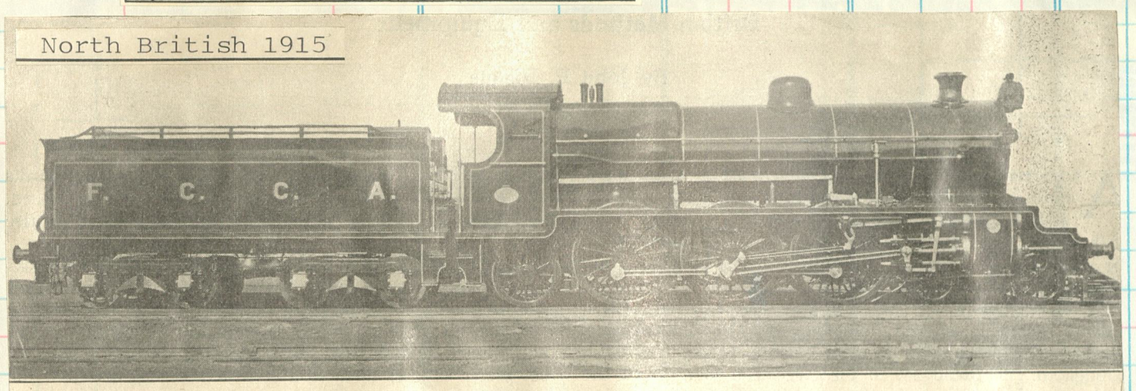


"El Rapido"—the Buenos Ayres-Rosario Limited on the Central Argentine

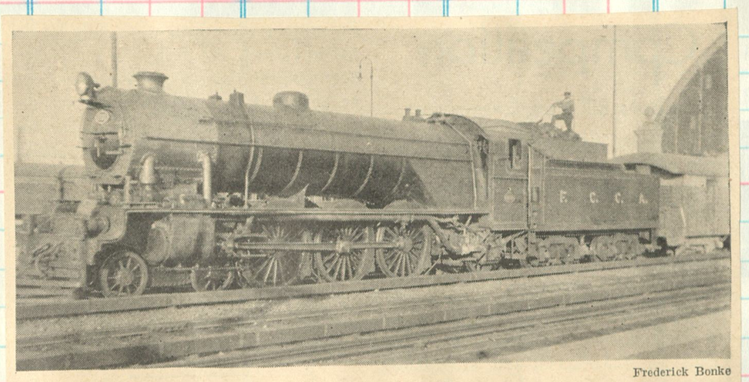
F.C. GENERAL BARTOLOME MITRE



North British 1915



The Prevailing Type of Power in Passenger Service on the Central Argentine

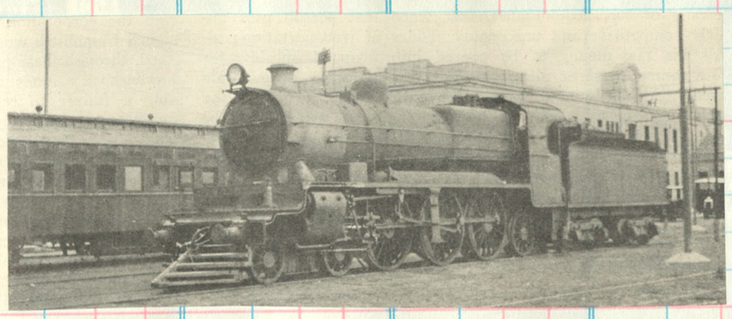


Frederick Bonke

HEAVIEST TYPE PASSENGER ENGINE IN ARGENTINA

Engine 1111 of the Ferro Carril Central Argentina photographed at Buenos Aires.

(FNGBM) 5'6" ga

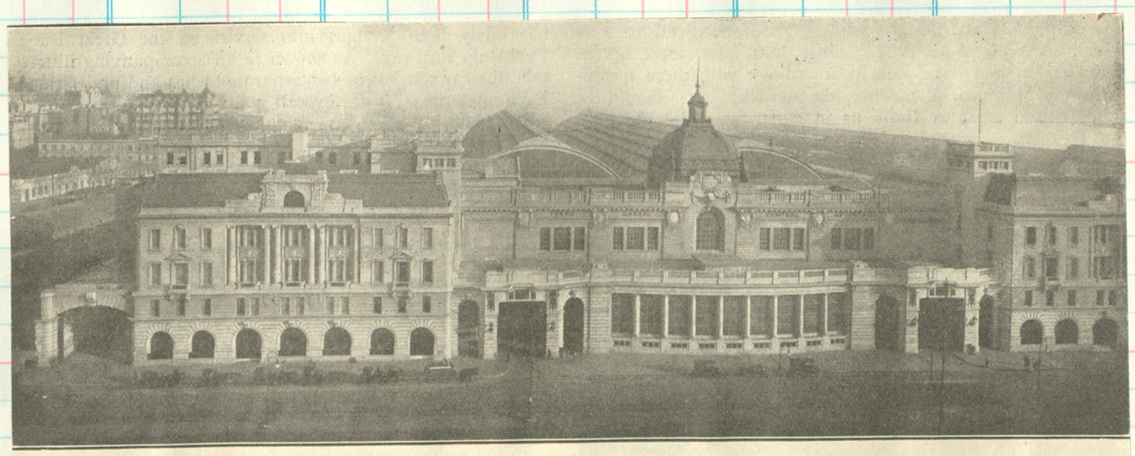


Scene at the Perez Shops of the Central Argentine Railway, Rosario, Argentina

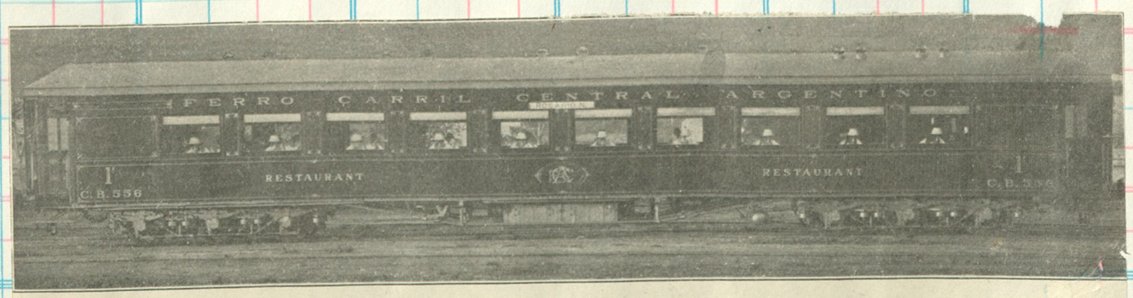
No British

A 5'6" ga Pacific, #120, of the FNGBM. Blt by North British 1914

#327 one of fifteen two cylinder cross compound 4-6-0's built by Beyer Peacock in 1907.



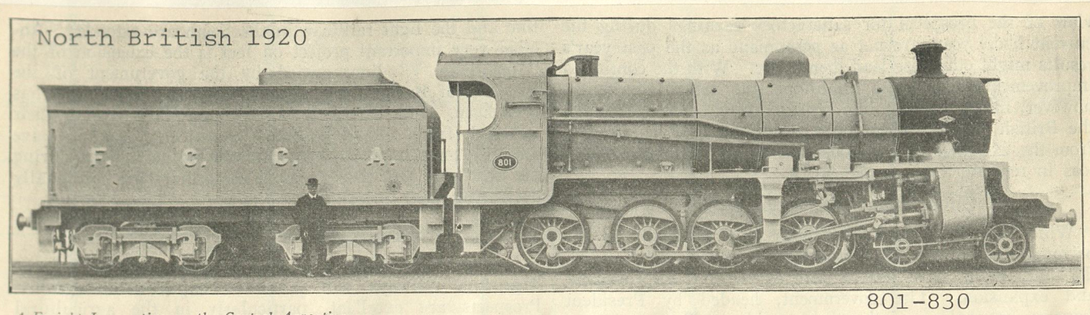
Retiro Station, Buenos Aires



Standard Dining Car of the Central Argentine

Class. No. | Sold | Cl | Amount

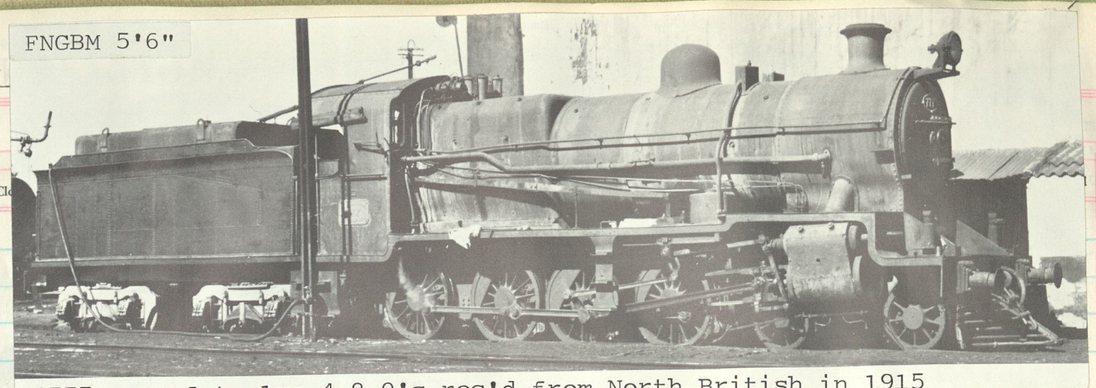
North British 1920



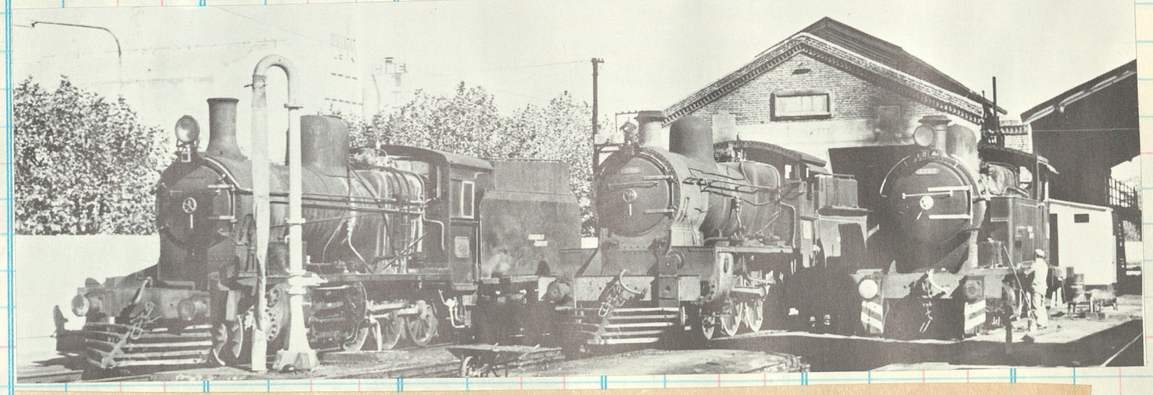
A Freight Locomotive on the Central Argentine

801-830

FNGBM 5'6"



#777 one of twelve 4-8-0's rec'd from North British in 1915



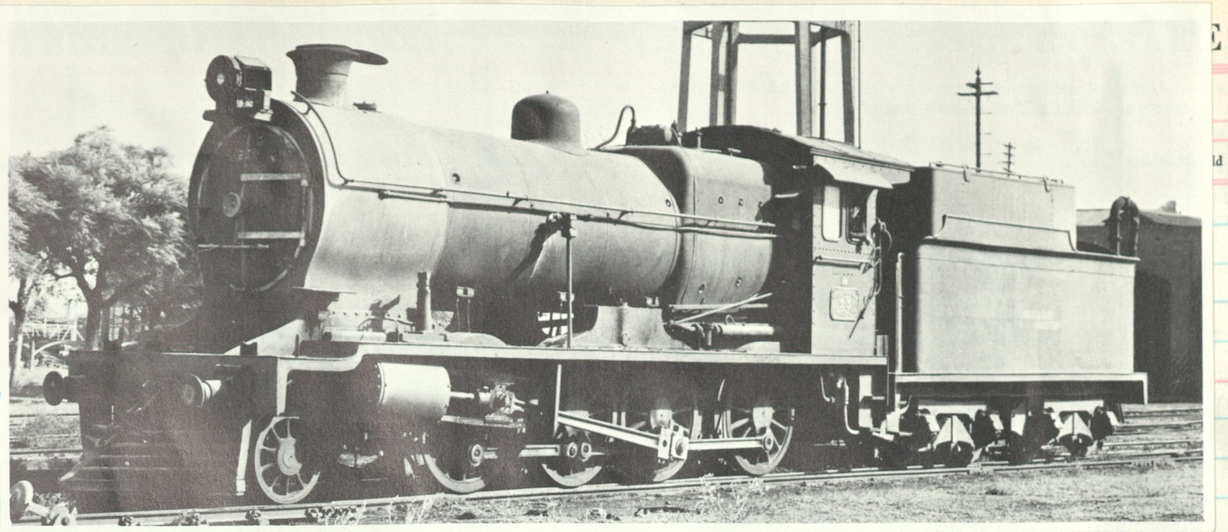
Outside the engine shed at Mar del Plata, L to R a 2-8-0, 4-6-0 and a 2-6-2T

FNGSM

Ferrocarril Nacional General San Martin

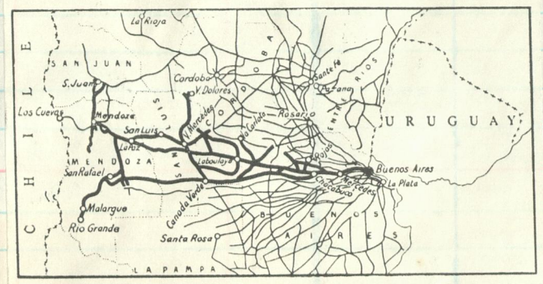
Gauge 5'6"

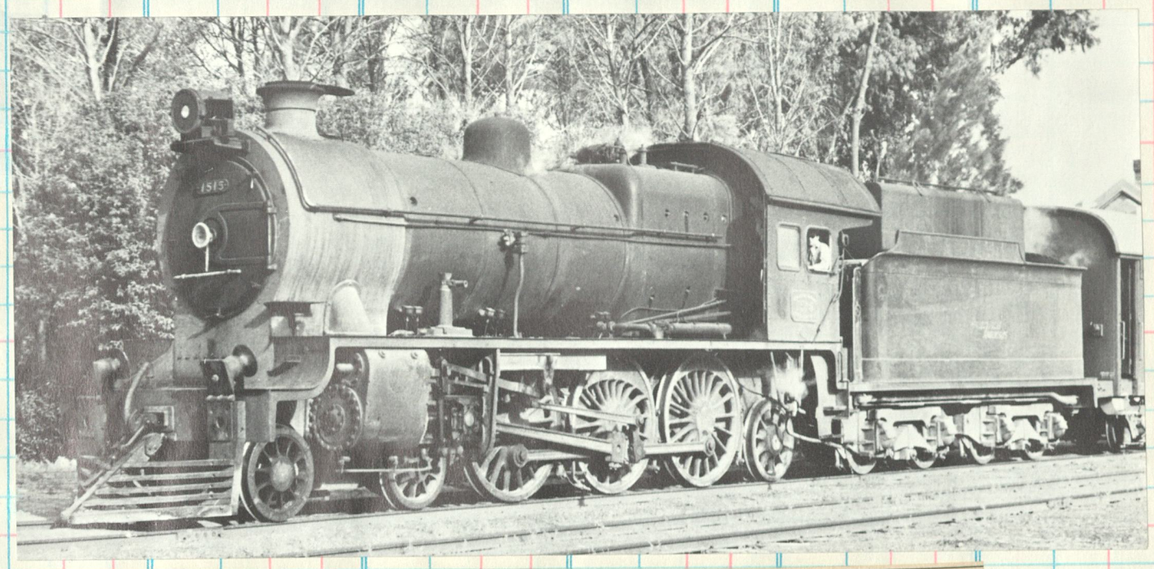
In 1968 the FNGSM was still using 369 steam over 3,572 miles with 7,390 freight and 523 passenger cars.



#23 2-8-0 North British 1906

F.C. GENERAL SAN MARTIN





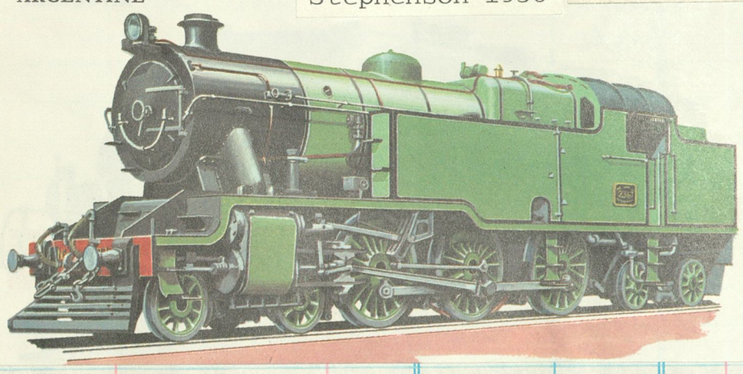
Pacific #1515 [1514-1524] North British 1911

Beyer Peacock 1928

Buenos Aires & Pacific
2-8-2 & 4-6-4T

ARGENTINE

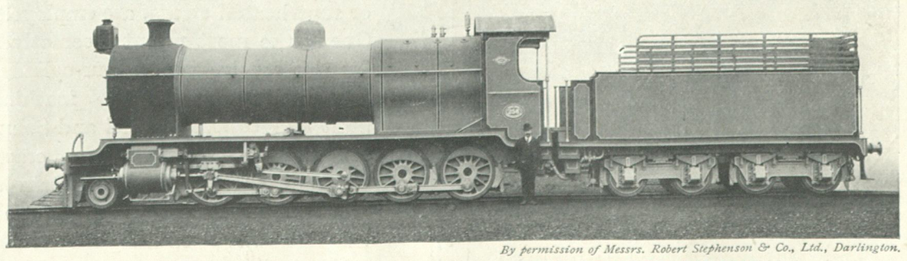
Stephenson 1930



Consolidation #124, North British 1912, with an auxiliary tank swings into the yard at Monte Coman with a short cut of empties.

A 2-8-0 gets some finishing touches at the Junin Shops

[FNGSM]



By permission of Messrs. Robert Stephenson & Co., Ltd., Darlington.

DECAPOD BUILT FOR THE ARGENTINE GREAT WESTERN RAILWAY.

The line is of 5 feet 6 inches gauge. In working order this locomotive weighs 135 tons complete.

Total

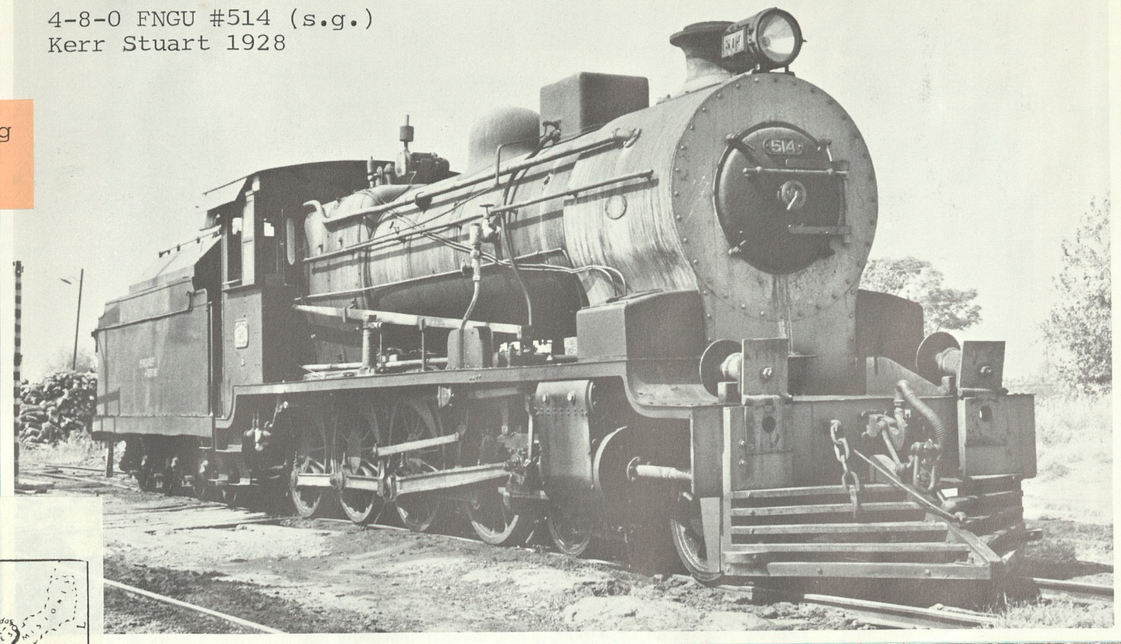
FNGU

Ferrocarril Nacional General Urquiza

Standard Gauge

FNGU [1968] 2,397 miles using 182 steam, 3,948 freight and 228 passenger cars.

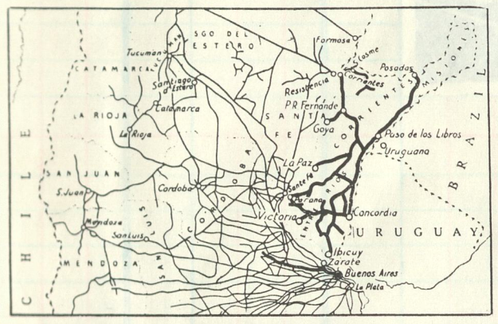
4-8-0 FNGU #514 (s.g.)
Kerr Stuart 1928



F. C. General Urquiza 4 ft. 8½ inch gauge

Lying between the broad Paraná and Uruguay Rivers, the provinces of Entre Rios and Corrientes and a small part of Misiones are served by the standard-gauge Ferrocarril General Urquiza, a line which still depends on train ferries to provide links with Buenos Aires (Ibicuy-Zárate) and Paraguay (Posadas-Pacu-Cua). Many parts of the region are pleasantly different from the pampa and have rolling hills with the railroad winding its way among them.

F.C. GENERAL URQUIZA

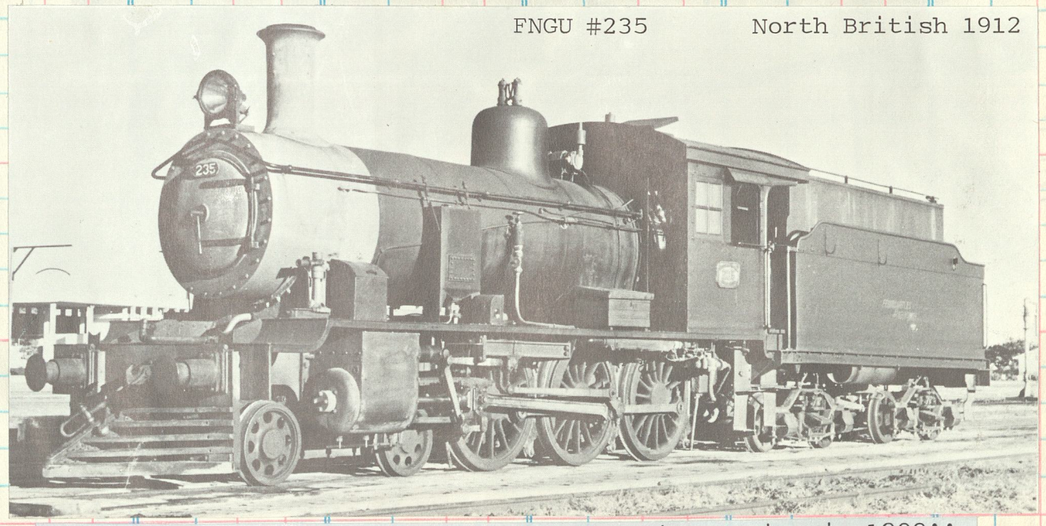


FNGU 2-6-0 #13 Dübs 1888

ZB FNGU

"Very British" 4-4-0 nos 801-808 Kerr Stuart 1914

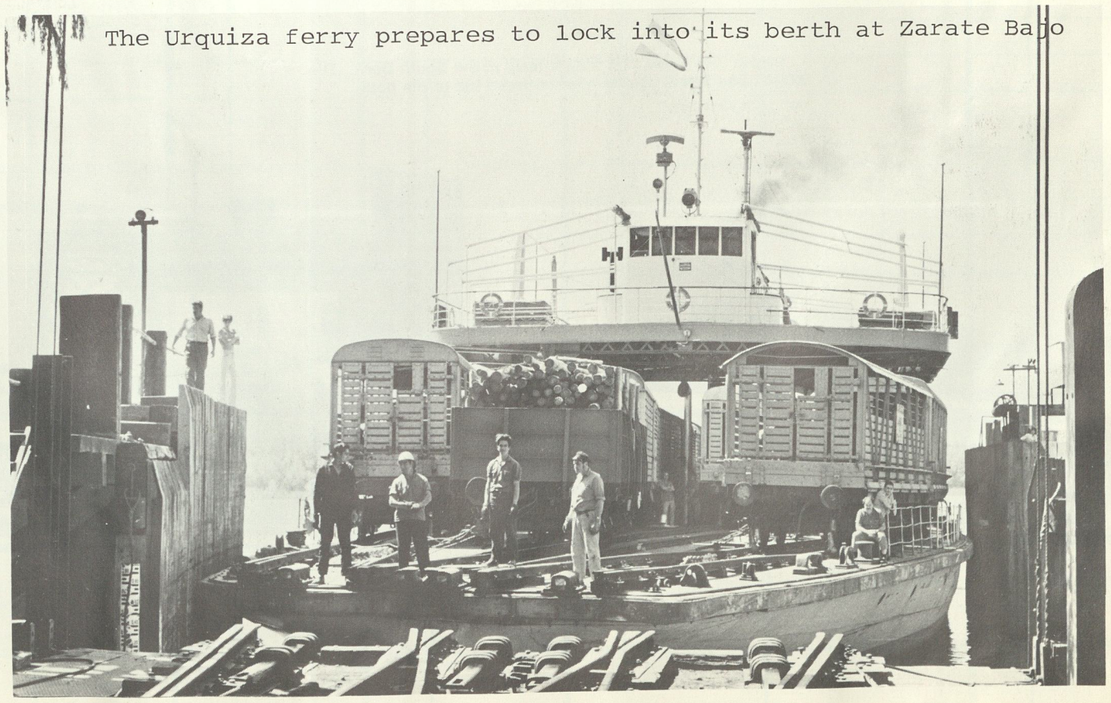
FNGU #235 North British 1912



Sold to F.P.C.A.L. with same number. Still active in 1988!!

An 'Austerity' design 2-10-0 s.g. blt by Henschel in 1952 for the FNGU

The Urquiza ferry prepares to lock into its berth at Zarate Bajo



116

RFIRT

Red Ferro-Industrial Rio Turbio
Gauge 75 cm [2'5 1/2"]

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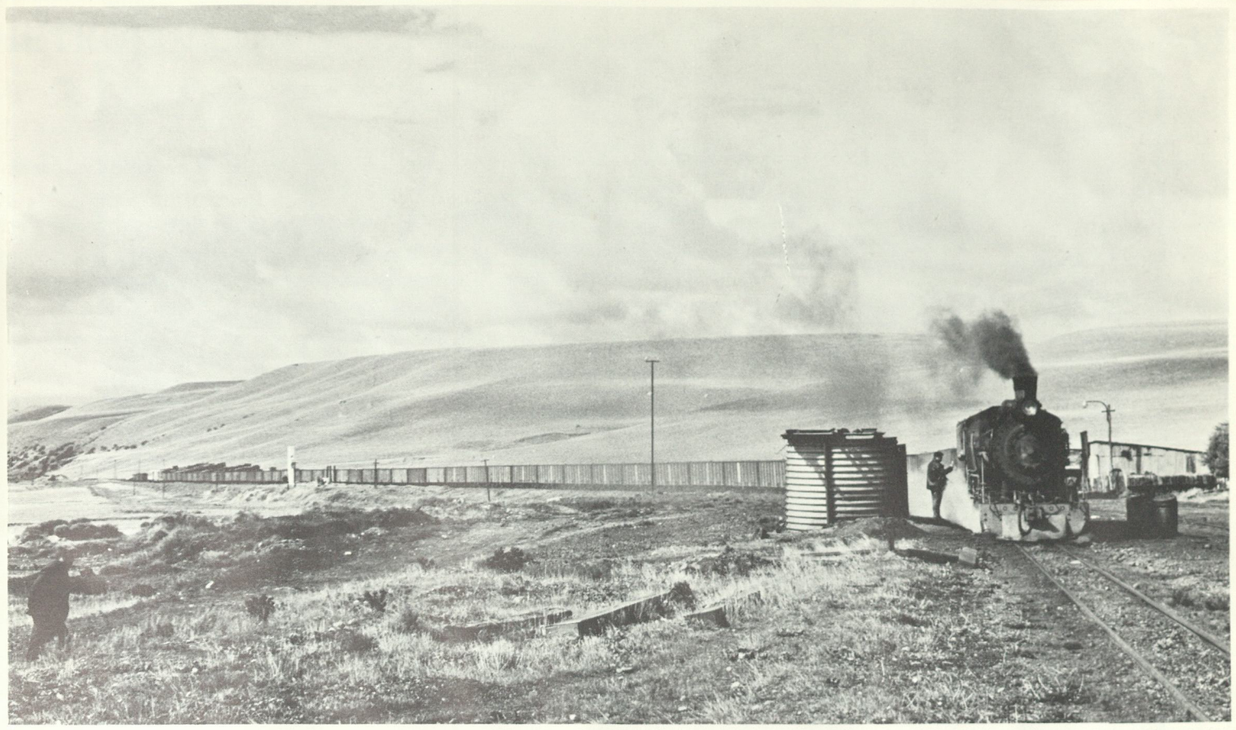
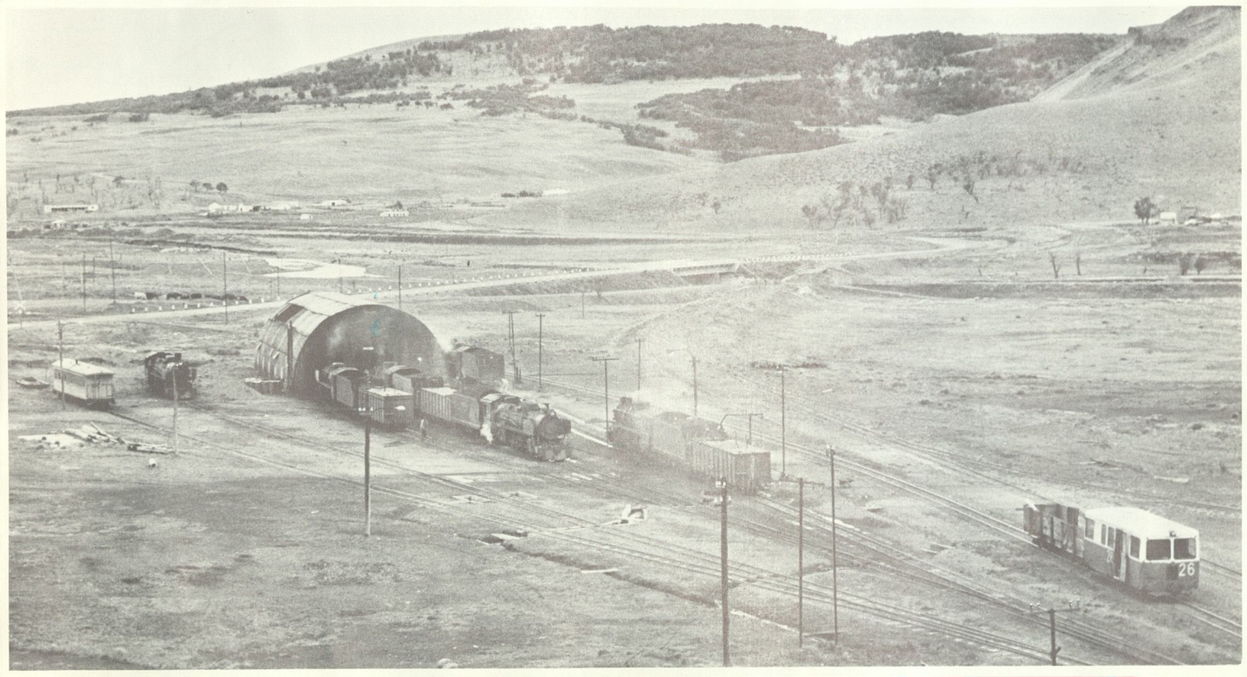
DATE
FORM

Sold | Amount | Clos. No. | Sold | Amount | Clos.No. | Sold | Amount

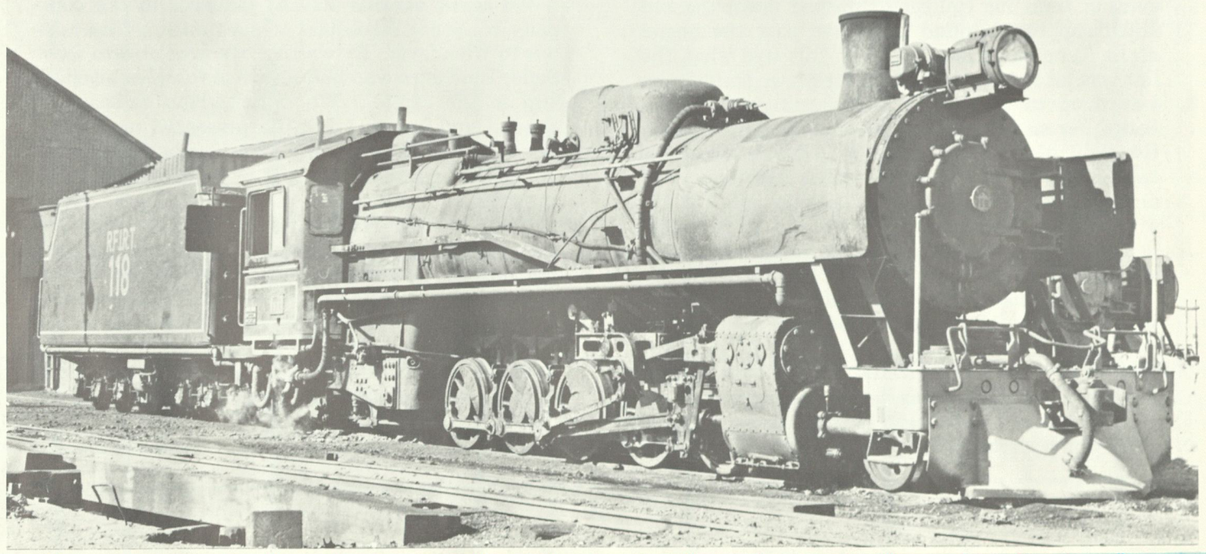


Above: The train of empty coal cars stretches nearly a kilometer behind No. 113 as the little 2-10-2 prepares to leave La Sofia, a stop in the wilderness of Patagonia at the southern tip of South America.



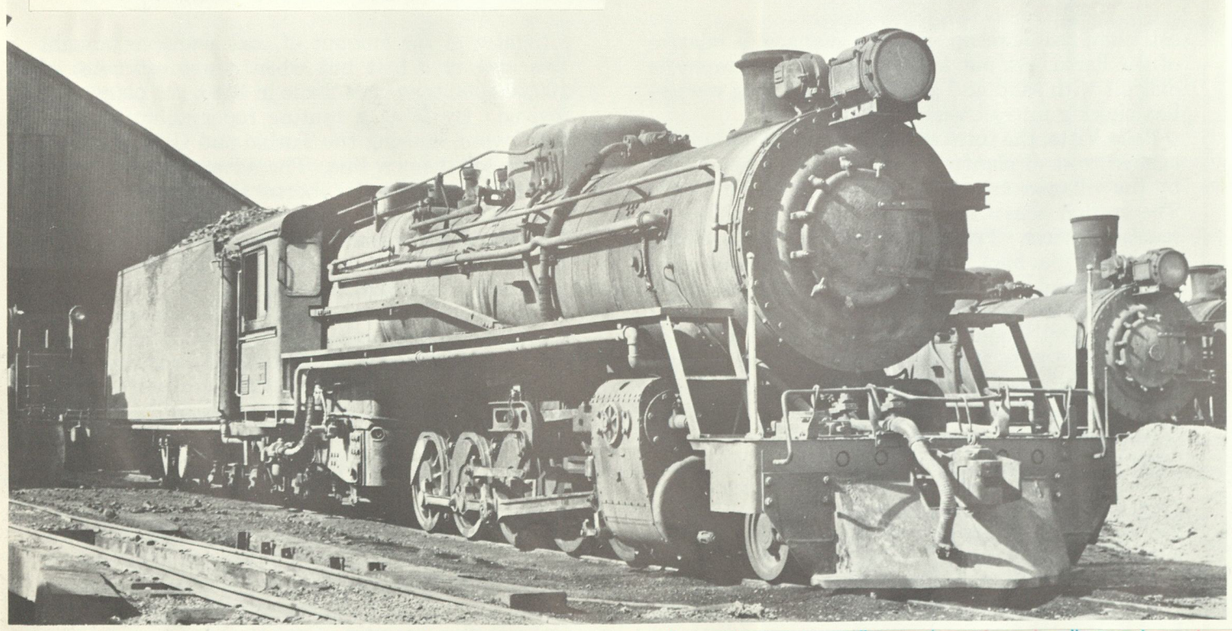
Five 2-10-2's relax at the La Dorotea engine shed

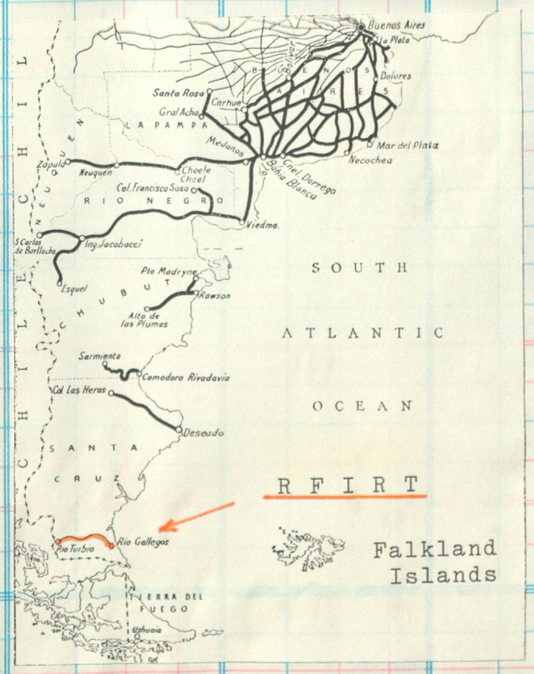
Red Ferro-Industrial Rio Turbio [RFIRT] nos 111-120 Mitsubishi 1963
75 cm



Could handle trains up to 1,700 tons

One of the original 1956 Mitsubishi 2-10-2s that work the R.F.I.R.T., the Argentine 75 cm. gauge coal line that runs from the mines at Río Turbio to Río Gallegos.





Total

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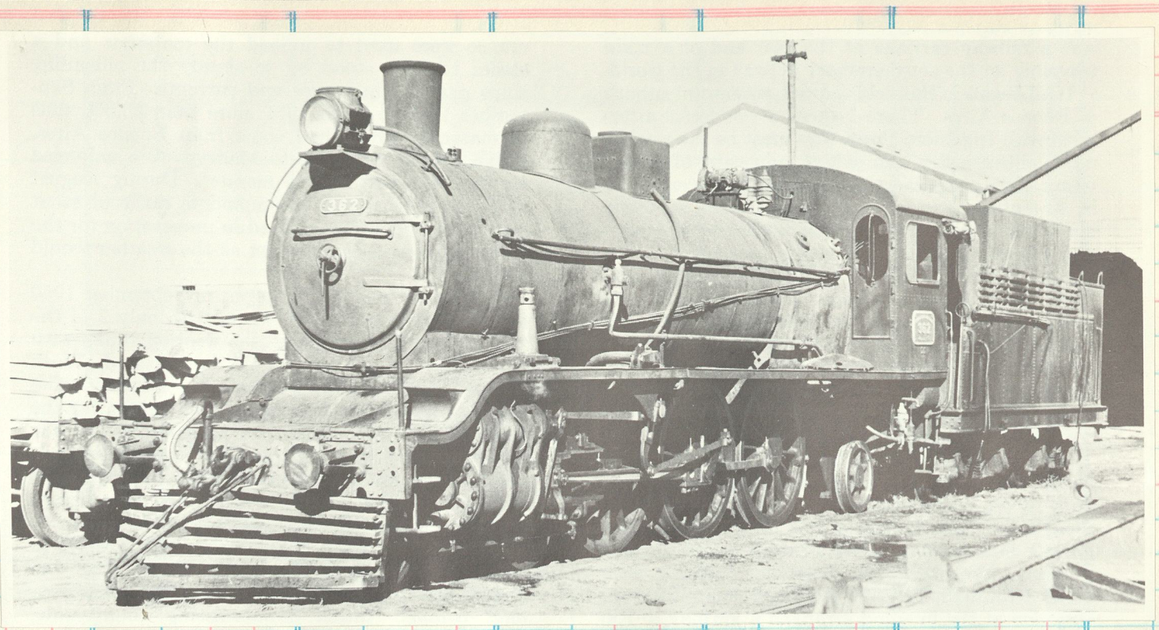

A 5'6" gauge 4-6-2 of the F N Patagonic, #362, built by Haine St Pierre in 1910

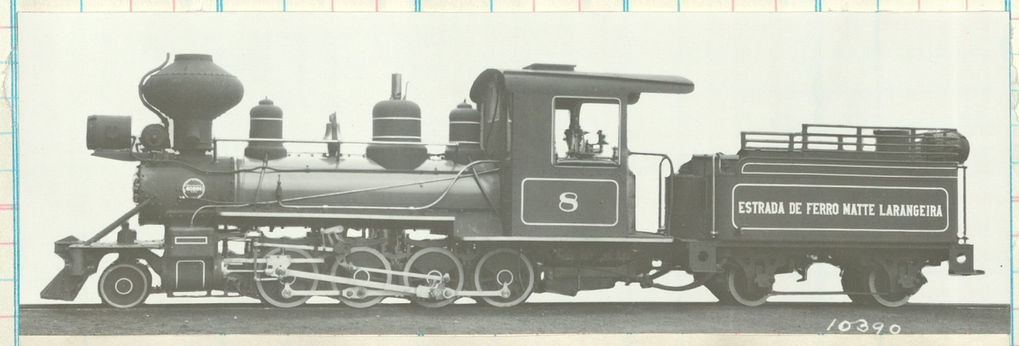

Fig. 3340—Consolidation (2-8-0) Type Locomotive Built for Empresa Mate Larangeira, Argentina, by The Baldwin Locomotive Works. 1929

c/n 60899

Gage	1 ft. 11⅝ in.	Total wheel base	14 ft. 1 in.
Cylinders, diameter and stroke	10 in. x 14 in.	Fuel	Wood
Tractive force	7,440 lb.	Grate area	7.4 sq. ft.
Drivers, diameter	28 in.	Steam pressure	175 lb.
Weight on drivers	30,000 lb.	Evaporative heating surface	339 sq. ft.
Weight of engine	34,000 lb.	Superheating surface	None
Driving wheel base	8 ft. 3 in.	Tender capacity	800 gal.—1 cord

118

PENN CENTRAL - METROPOLITAN REGION

RECORD OF TICKET SALES AT

SELLER

DATE

FORM	DESTINATION	Amt.	Com. No.	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount

_____ STATION.

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118 120

PENN CENTRAL - METROPOLITAN REGION RECORD OF TICKET SALES AT

SELLER
DATE
FORM

DESTINATION	Amt.	Com. No.	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold

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Appendix

Miscellaneous Charts

ARGENTINA

		Base: 100 in 1953					
		1957	1958	1959	1960	1961	1962
G.N.P. at Constant Prices		113	116	111	116	122	—
Agricultural Output		108	111	105	100	106	—
Industrial Production		121	125	111	115	128	119
Volume of Imports		166	175	151	183	219	—
Volume of Exports		111	120	122	113	—	—
Cost of Living (Buenos Aires)		165	217	464	590	671	846
Vol. of Railway Freight Traffic		96	100	109	101	—	—
Vol. of Railway Passenger Traffic		113	115	121	113	—	—
Exchange Rate	£1=800 Pesos. $1=350 Pesos						
Total Land Area	1,070,000 square miles						
Total Population	22,691,000						
Population Density	22 per square mile						

LAND USE (1957)	Per cent
Urban Areas and Wasteland	13
Forests and Woodland	36
Permanent Meadow and Pasture	40
Arable and Orchard	11

EMPLOYED PERSONS (1957) Total: 6,267,000	Per cent
Agriculture, Forestry and Fisheries	26
Mining, Manufacturing, Building and Public Utilities	29
Services and Distribution	36
Transport	6
Other	3

ARGENTINE STATE RAILWAYS

EMPRESA DE LOS FERROCARRILES DEL ESTADO ARGENTINO, AVENIDA MAIPU, BUENOS AIRES

Tabulated information on page 94.

President:	General Juan Carlos de Marchi
Vice-President:	General de Brigada D. Tomas J. Caballero
Sub-Administrator (Technical Operations)	Col. D. Emilliaro A. Flouret
,, (Economic & Commercial)	Col. D. Norberto S. Novoa
,, (Personnel)	Col. D. Osraldo R. Azpitarte
,, (Public Relations):	Col. D. Alberto Caceres
,, (Engineering):	Col. D. Mario E. Barague
Procurator-Fiscal of Railway Policy for National Defence, Legal Advisor and Public Health Inspector:	Col. D. Rodolfo E. Canepa

General Picture in 1967

The reorganisation of the railway system, which is being carried out by the army authorities appointed by the Government is beginning to show the first favourable results. The functioning of this means of transport, both as regards the passenger traffic and the freight transported, has improved and the operating losses which had been constantly increasing in latter years, are now tending to level off. The operating deficit set up by the National Government at $52,000 million for the current year is not to be surpassed and is to be reduced to $34,000 million in 1968, as stated by the President of the State Railway System.

A total of 1,803 miles (*2,108 km.*) of branch lines will be closed down in 1968, and a further closure of 3,375 miles (*8,060 km.*) will be considered.

During the first nine months of 1967, the National Treasury's financial support of the railway system implied an amount of $55,168 million (1966: 47,911 million), of which $31,869 million (1966: 31,399 million) went to cover operating losses and $23,299 million (1966: 16,512 million) to finance investments of a capital character.

General Operating Finances

In the 1950's gross investment in the railways was, on average, equivalent to 0·51 per cent of the g.n.p.; this compares with a figure of 3·64 per cent for roads and road vehicles.

According to the National Development Plan, railway expenditure at constant prices has risen by about 40 per cent since 1943 while income has fallen by 52 per cent. One Buenos Aires newspaper calculated that the accumulated deficit of the railway since nationalization was more than U.S.$2,000 million. The accuracy of this figure is somewhat suspect because of the difficulty of converting from pesos to dollars. In the early 1960's railway expenditure was more than twice the income figure.

Treasury payments to the railways in the past five financial years, with conversions to U.S. dollars at average official exchange rates ruling in each of the periods, were as follows:-

TREASURY PAYMENTS

	To Cover operating Deficits		For Investment	
	million pesos	*U.S. $ millions*	*million pesos*	*U.S. $ millions*
1960/61*	13,191	158·9	5,364	64·6
1961/62*	22,406	197·2	5,860	51·6
1962/63*	21,462	156·0	10,106	73·4
1963/64*	23,691	170·0	11,736	84·2
1965	39,555	235·6	18,078	107·7

*November-October; in 1965 the financial year was from January to December.

Rolling Stock

In 1960 it was stated that out of a total of 3,770 steam locomotives, 2,500 were more than 45 years old. According to more recent information in the National Development Plan only about 900 of these locomotives are capable of adequate service.

Out of a total of 1,020 more modern diesel locomotives owned by Argentine Railways, some 400 were said to be out of service and of the remainder 300 were seriously in need of general overhaul. Arrangements were being made for the assembly in Argentina of 220 new diesel locomotives.

Only about 60,000 of the enterprise's 80,000 goods wagons are in service but 10,000 of these were in a precarious state of repair when the Development Plan was prepared and 25,000 were only just acceptable. More than half of the 4,000 passenger coaches were considered too old for serivce and only 1,200 were in a satisfactory state of repair. Under recent contracts 950 new vehicles should come into service by 1967.

Track

Argentine Railways have 44,100 *km.* of track, of which 25,247 *km.* have been in use for more than 40 years. Only 39% of the total is considered to be in good repair; 27% is considered to be in a bad state of repair.

Personnel

In 1948 Argentine Railways had 130,000 employees. Today it has nearly 170,000. The proportion of total expenditure accounted for by wages and salaries rose from 60 per cent in 1943 to 68 per cent in 1963.

Freight and Passengers Carried, 1952-1964

	Freight *million ton/km.*	Passengers *million passenger/km.*
1952	15,255	13,451
1953	15,016	13,654
1954	15,197	14,735
1955	15,392	14,762
1956	14,873	15,384
1957	14,367	15,456
1957/58*	13,835	15,403
1958/59*	15,531	16,485
1959/60*	15,188	15,684
1960/61*	13,985	15,158
1961/62*	11,272	11,500
1962/63*	10,766	11,766
1963	10,631	12,074
1964	13,065	12,962

*November-October

Line Closures 1967

Argentine Railways (EFA) have ratified the closing down of 13·24 miles (*2,132·9 km.*) of branch lines on the railway lines of Belgrano, Roca, Mitre, San Martin, Sarmiento and Urquiza.

On "General Belgrano" railway

Line "P" from station of Carlos Beguerie to junction with Rosario-Puerto Belgrano. Length 189 miles (*304 km.*).

Line G4 from junction Rosario-Puerto Belgrano (Mitre Railway) to the station of Villegas, 62 miles (*100 km.*).

Sundry other lines Total 582 miles (*936·6 km.*).

General Roca Railway

Total 482 miles (*776·5 km.*).

General Mitre Railway

Total 180 miles (*290·4 km.*).

General San Martin Railway

Total: Branch line from Palmira to Chapanay 9·3 miles (*14·9 km.*).

Sarmiento Railway

12·3 miles (*19·7 km.*) Colonia Alvear to Saitué

General Urquiza Railway

Rojas to 4 de Febrero 59 miles (*94·8 km.*).

ROLLING STOCK

In 1967 this was increased by 74 locomotives and 169 passenger coaches. Plans for the period 1968-1971 are for: 322 locomotives, 254 coaches, 12,000 bogie cars, 1,200 covered wagons and 10 1,500 h.p. diesel locomotives. Wooden and semi-metal carriages will gradually be replaced by all-metal rolling stock. Some of the new stock will be bought in Spain on credit the rest in Japan and Yugoslavia.

TRACK RENEWAL

180 miles (*289 km.*) of permanent way are to be renewed and 223 miles (*359 km.*) are to be reconditioned. $2,200 million will be spent on: automatic signals and electrification, repair of bridges, renewal and improvement of marshalling yards and building and remodelling stations and platforms.

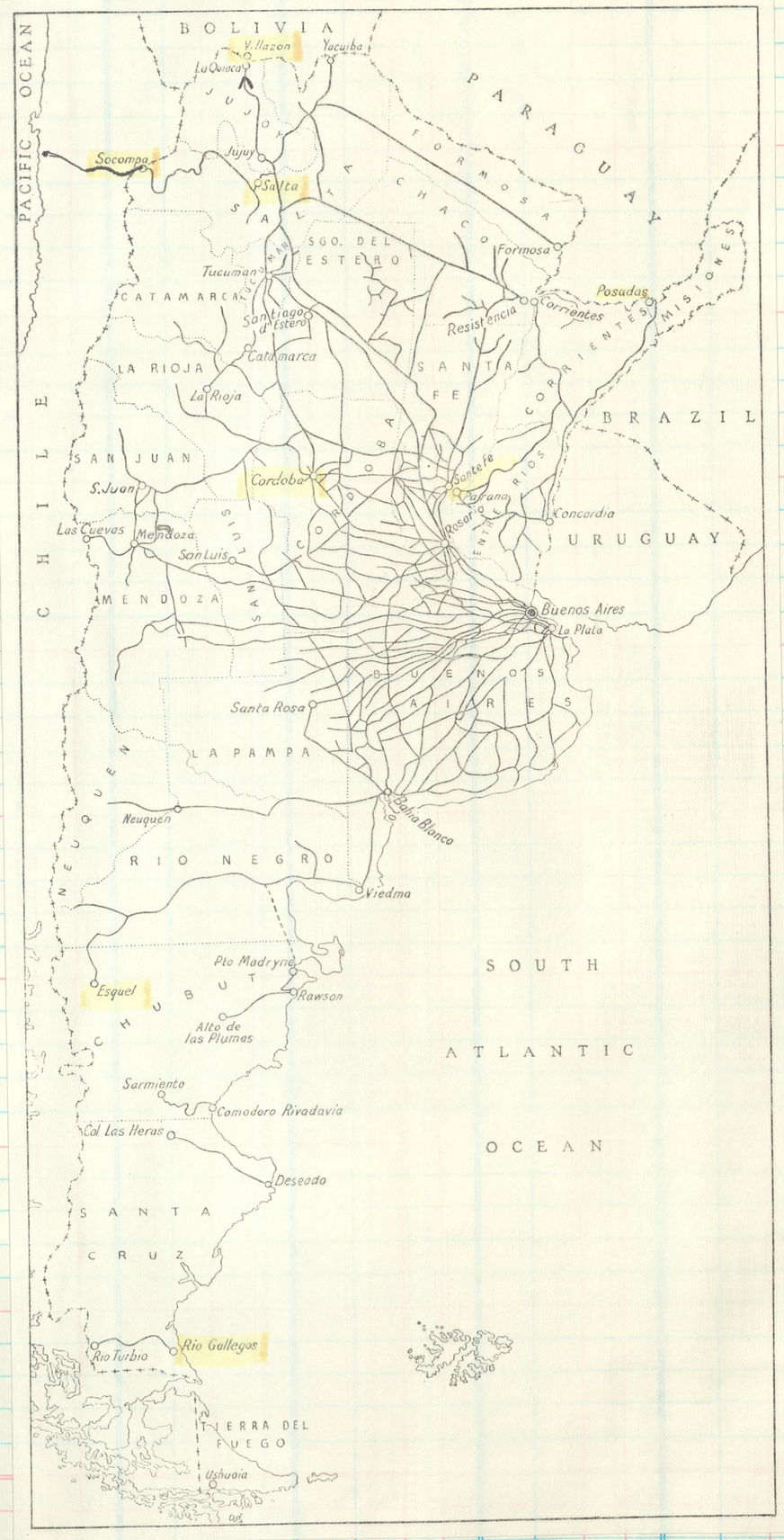
PASSENGER SERVICE

The Revenue for 1966 was $13·433 million (14,902·4 million passengers) so the average yield was 0·91 *m* $ per passenger *km.* The estimated revenue for the current year is 23,000 million (14,900 passengers) which is an average of 1·54 per passenger/*km.* The estimated increase is due solely to increase in rates.

FREIGHT

In 1967 the estimated goods traffic was 17·6 million tons and 11,655 ton/km. (very similar to the period 1963/64.) In 1966 goods traffic was 20·3 million which is a yield of $26,205 million.

The estimated revenue for 1967 was $37,940 million; the average yield $21,557 million per ton.



B

BOLIVIA

BOLIVIAN NATIONAL RAILWAYS

Empresa Nacional de Ferrocarriles, Castilla 428, La Paz

General Manager: Eng. Armando Murillo Cazas

Bolivia being landlocked, the railways have been developed to give access through adjoining countries to the coast. By connection at the Chilean border with the lines of the Antofagasta (Chile) & Bolivia Railway (via the lines in Bolivia formerly owned by that company but now part of the State-owned system) access is made to the Pacific ports of Arica, Antofagasta and Mejillones. Access to the Pacific ports of Mollendo and Matareni in Peru is by steamship on Lake Taticaca, 12,500 ft. (3,810 m.) above sea level, from Guaqui to Puno, Peru, and thence by rail. Connections are made with other railways at Villazón and Yacuiba for Argentina and Corumba for Brazil.

Chief traffic on the Bolivian Railways consists of mined products (mainly tin and crude petroleum); products of forests; and agricultural products (sugar and cereals). Measures are being adopted to encourage agricultural development by irrigation projects, loans to farmers, agricultural education, etc., and the proposed new railway lines will, when completed, afford rapid transport facilities for a large new area of the country.

In 1965 £2·5 million compensation agreement was reached over the transfer of the total property of the Antofagasta (Chile) and Bolivian Railways to the Bolivian National Railways.

The Argentine authorities recently completed the railway from Yacuiba to Santa Cruz de la Sierra, financed by Angentine Railways (EFA) and requiring an investment of 3,500 million pesos.

An agreement was signed to extend the works to the source of the Rio Mamoré, in the department of Beni. This will form a link between the Amazon basins and the Atlantic, passing through rich farming and cattle country.

On 30 November 1965, the Argentine and Bolivian Governments signed an agreement for rail and road communications from Santa Cruz de la Sierra to a navigable point on the river Ichilo. To study this plan the Argentine government granted a credit of 31,000,000 pesos. The layout of the line to Santa Rosa over a distance of 62 miles (100 km.) has been approved and construction started early in January 1968 on the section Santa Cruz de la Sierra to Viru Viru 9½ miles (15 km.).

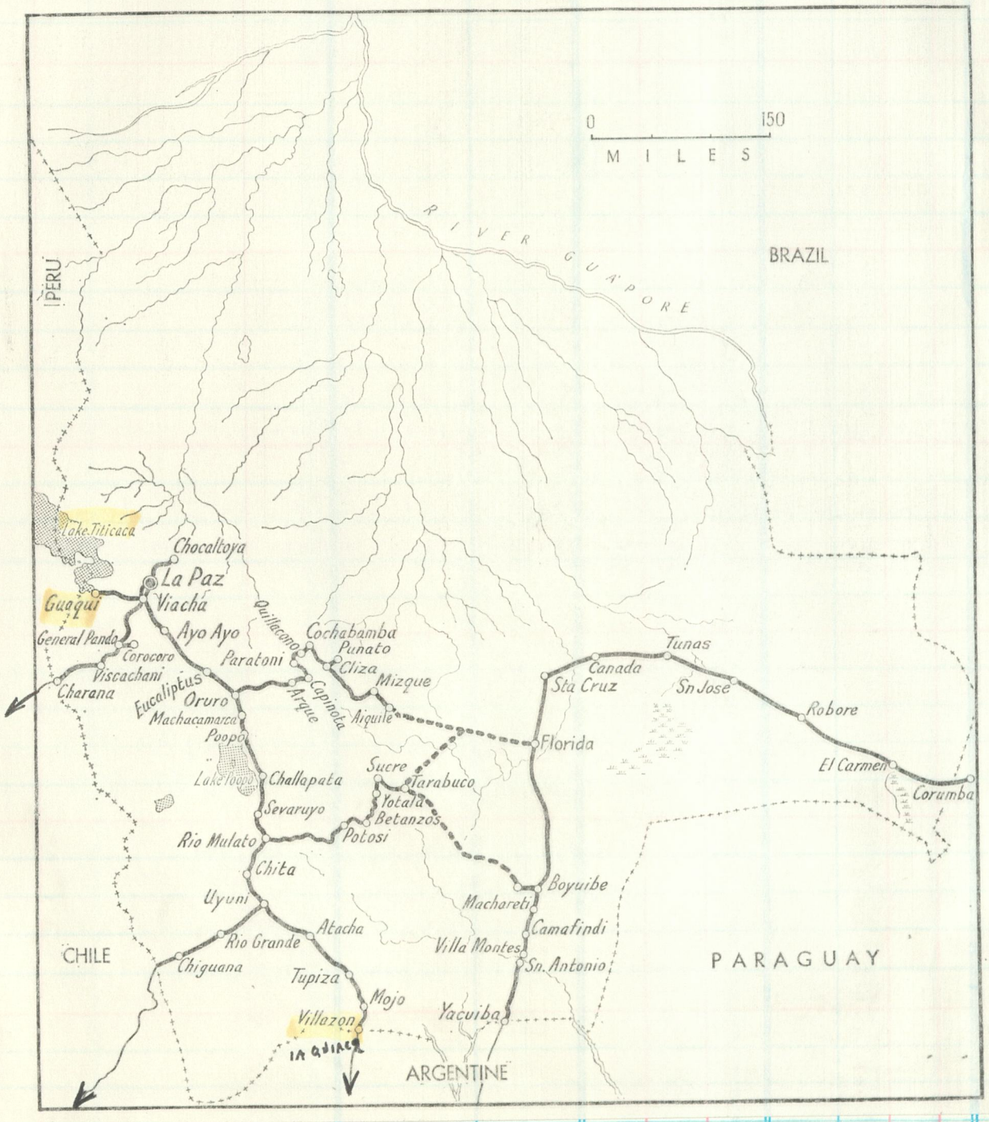
The estimated cost from Santa Cruz de la Sierra to Santa Rosa is 7,100,000 $ and about 80% of the work is to be done under contract.

As regards the line from Santa Rosa to Rio Ichilo, at the request of the Bolivian government and to ensure navigability it has been decided to place the railhead at the confluence of the rivers Ichilo, Grande and Chapare.

Extension of the railway system in Bolivia is of importance to both countries. Last year Bolivian imports from Argentine ran to 8,290,800 dollars and Bolivia exported to Argentine sundry goods for 1,765,161 dollars, mostly petroleum and gas. These figures will probably be exceeded in 1968 much to the advantage of Northern Argentine. The department of Santa Cruz de la Sierra has a population of 450,000 inhabitants, 12·6% of Bolivia's total population, requiring increasing volumes of industrial and manufactured products.

The prolongation of the railway to Rio Mamoré will boost the Chaco department's economy, in Bolivia, as the local sawmills will be re-opened to produce 500,000 coloured quebracho sleepers for the railway.

In 1968 the Yacuiba to Santa Cruz de la Sierra line was served by two "rail-buses" bought by the Bolivian government on credit from West Germany and five diesel locomotives from Japan serving on the eastern network of Bolivia. This will encourage trade between Pocitos in the Argentine, Santa Cruz de la Sierra in Bolivia, and Corumbá in Brazil. Modern railbuses can cover the distance of 329 miles (530 km.) between Santa Cruz de la Sierra and Pocitos in seven hours.



BRAZIL

Total Land Area	3,286,470 square miles
Total Population (1967)	87,000,000
Population density	25 per square mile
1£=NCr $8·40.	
LAND USE (1967):	
LABOUR DIVISION (1960)	%
Agriculture	52
Services	13
Mining and Industry	12
Commerce	7
Transport and communications	4
Others	12

Brazil is the largest country in the Americas as regards superficial area (3,288,000 square miles), the second largest for population, exceeded only by U.S.A., and the fourth largest as to length of rail track. There are twenty-one States in Brazil, and 65% of the country's industrial production is centred in the State of São Paulo.

Except in the vicinity of Rio de Janeiro and São Paulo where the lines are interconnected, the railways generally are confined to the coastal area, running inland for comparatively short distances from various seaports. During the last few years the main effort in construction has been directed towards joining these separate railways to give continuous north to south rail connection. Although there are still several gaps in the link, construction has been pushing ahead and it is hoped that the work will be completed in the near future.

A new capital city, Brasilia, has been built, roughly at mid-point in the country. From Brasilia four main trunk railways line are being built or are projected:—

North: Tronco Principal Norte (TPN) — due north to Belem
South: ,, ,, Sul (TPS) — via Colombia, São Paula, Ponta Grosso and Rio Negro to Porto Alegre.
East: ,, ,, Leste (TPL) — via Contendas to Campinho.
West ,, ,, Oeste (TPO) — via Goiania to Cuyaba.

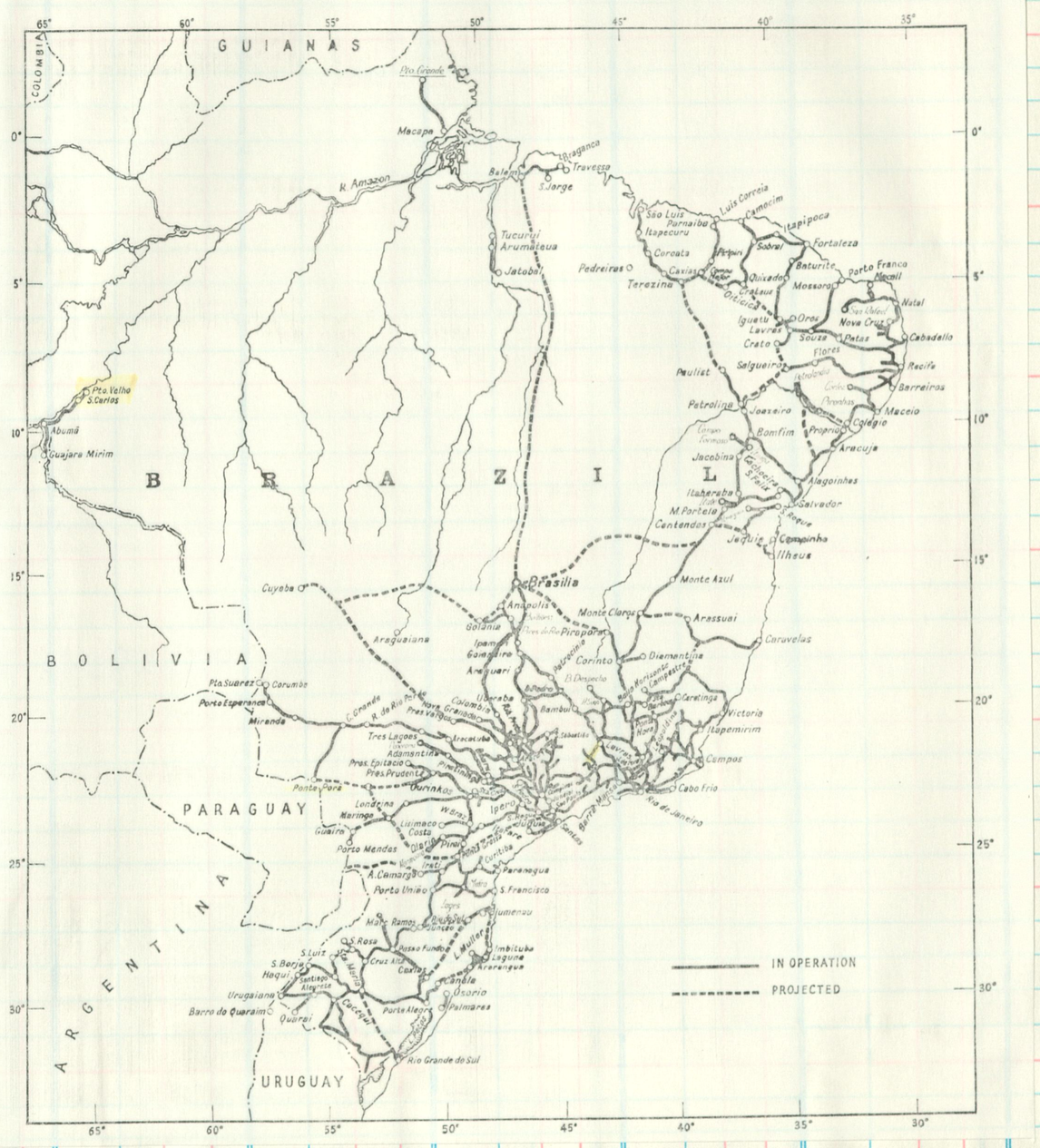
GENERAL

A West German/Brazilian consortium are planning a 10 mile (16 km.) railway in Rio to take 8 months to make. There was an increase in goods transport by 25% in 1966 as compared with 1963 and an increase of 35% in tons per km. during this period.

Subsidies which in 1963 were 71% of the total expenses of RFF and went up to 82% in 1964 were reduced to 45% of expenses incurred in 1966. Receipts totalled 500 NCr$ million in 1967. The 1967 government subsidy to RFF was 4% compared with 13% in 1963.

RFF will have spent 186,000 million Cruzeiros (or £30 million) on railway improvements in 1967. 40 Diesel electric locomotives were supplied by General Electric during the year and 92 diesel electric engines from East Germany.

In 1966, a plan was made to build wide gauge (1·60 m.) line to integrate the Central Goias region with Brasilia. A 1·00 m. gauge line will be built at first to Itangua. It will follow the existing General Luz-Porto Alegre line. It will not detract from the importance of finishing the Belo Horizonte, Brazilia and Columbia Brasilia connections.



Total

Total

Total

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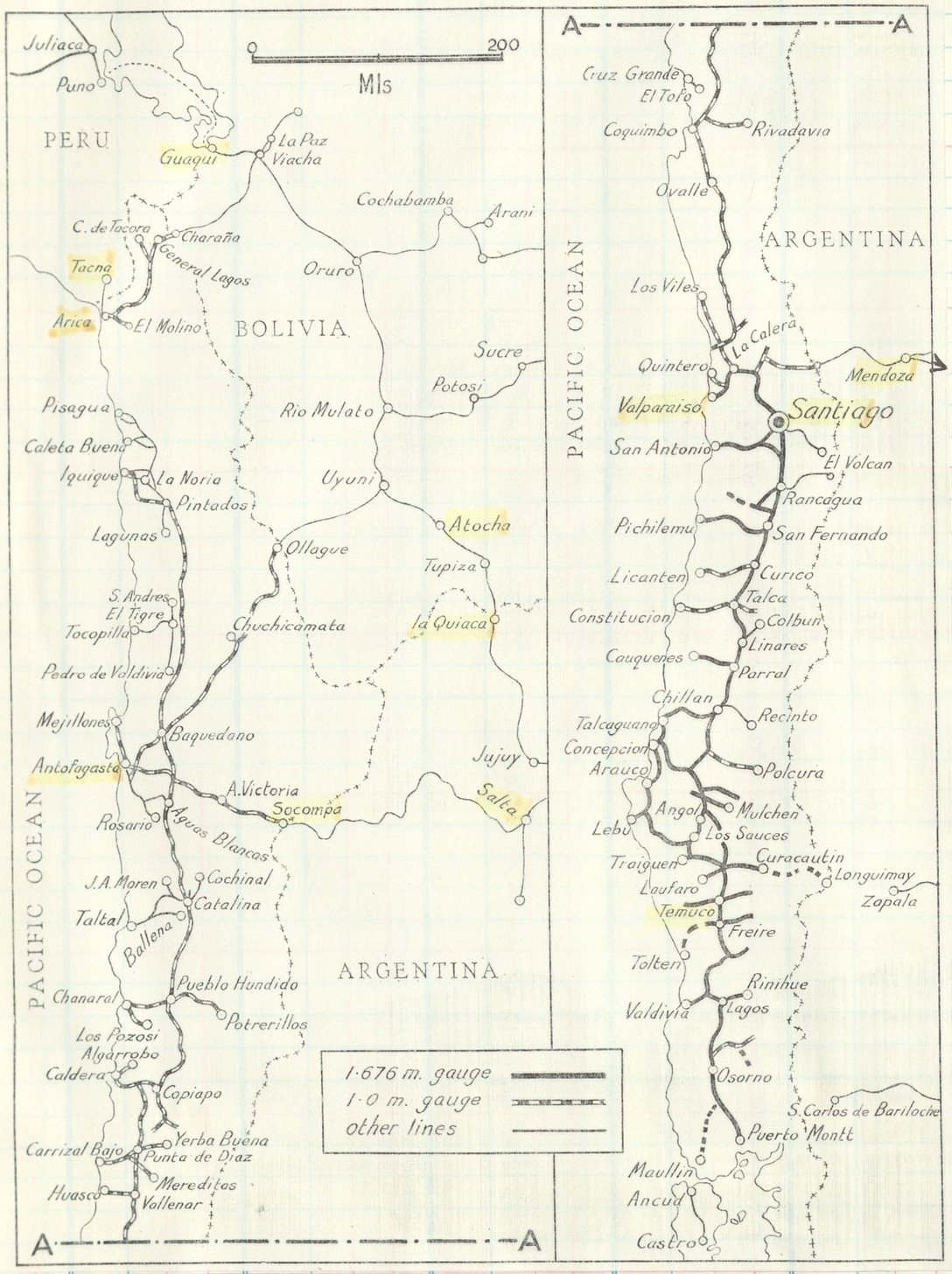
CHILE

Total Land Area	74,180·0 h.a.
Total Population	8,795,000
Population density	12 per hectacre
G.N.P. (1966)	143
Imports	194
Exports	139

LAND USE (1960):	%
Urban Areas and Wasteland	52
Permanent Meadow and Pasture	39
Potentially Productive land	3
Woodland and Forest	6

Source: Dept. of Statistics and Censure



CHILEAN STATE RAILWAYS

EMPRESA DE LOS FERROCARRILES DEL ESTADO DE CHILE, CASILLA 134-D, SANTIAGO, CHILE

General Manager:	Luis Falcone Schiavetti
Manager, Operations:	Fernando Palma Rogers
,, *Commercial:*	José Muñoz Vadillo
,, *Organisation and Modernisation:*	Mario Blanco Baeza
,, *Administration:*	José Walker Herreros

The complete system (see page 98, Tabular section, for details) consists of:—

F.C. Arica

Extends from Arica, on the coast close to Peruvian border, to Visvir where it connects with Bolivian section to La Paz. A 24 mile (*39 km.*) section is operated by rack system.

Red Norte (Northern Network)

Extends from La Calera, near Valparaiso, change-of-gauge junction with Southern section, northward to Pueblo Hundido.

Red Sur (Southern Network)

Extends from Puerto Montt northward through Santiago to Valparaiso, Electrified between Santiago and Chillan, and Los Andes branch.

F.C. Iquique-Pueblo Hundido

Extends southwards from Iquique on the coast to connection with Red Norte at Pueblo Hundido. All metre-gauge except the lines of the former F.C. Salitreros *1·435 m.* gauge, 154 miles (*248 km.*), and a combined gauge 3-rail section 73 miles (*118 km.*) long.

F.C. Transandino

Extends from Los Andes at the foot of the Andes Mountains to Caracoles on the Chile-Argentina border, connecting with Argentine State Railways (F.C. General San Martin).

Augusta Victoria-Socompa Line

Connects at Socompa with Argentine State Railways (F.C. General Belgrana), giving through service to Buenos Aires. Operated by F.C. Iquique-Hundido.

RAILWAY ACTIVITY

(figures in thousands)

Year	No. of passengers	Passenger kilometres	Goods carried (tonnes)	Tonne/kilometres
1960	23,751	1,989,030	14,047	2,067,967
1	21,235	1,838,272	13,848	1,980,369
2	22,404	1,983,188	16,301	2,202,997
3	23,101	2,058,809	19,048	2,664,195
4	22,741	2,123,392	20,653	2,814,455
5	23,842	2,220,548	11,872	2,129,009
6	22,979	2,360,841	14,098	2,224,952

The data for 1965-6 are taken from the reports for those years of the Chilean State Railways, and do not cover private railways or minor State owned railway companies.

Between 1960 and 1964 the Chilean State Railways carried 95·7% of the total passengers and ran 94·3% of passenger-kilometres; they carried 57·2% of the goods tonnage and 74·0% of the total tonne-kilometres in the country.

SIGNAL AND TRAIN CONTROL INSTALLATIONS

Existing signalling between Valparaiso and Talca is being changed to electric block and colour light signals. Total route length is 273 miles (*440 km.*).

Supplier: Union Switch and Signal, U.S.A.

Centralised Traffic Control (C.T.C.) is being installed between Talca and Puerta Montt. The line is divided into 5 sections. The first 3 sections, Talca-Chillán, Chillán-Concepcion, and San Rosendo-Temuco, are controlled from Concepcion. The other 2 sections, Temuco-Valdivia and Antilhue-Puerto Moutt, are controlled from Valdivia. Total route length is 510 miles (*820 km.*). The work will be completed in 1974.

Supplier: Westinghouse Brake & Signal Co. Ltd., England.

TRACK DETAILS

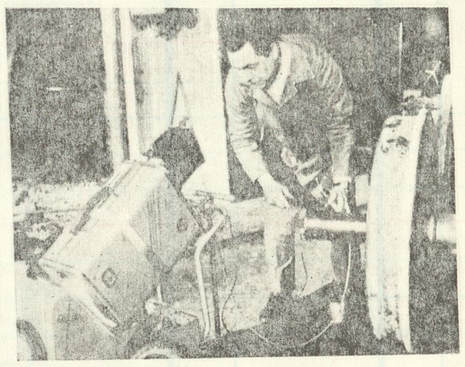
Standard rail

Type K, 119 lb./yd. (*59 kg./m.*); Type Z, 100·9 lb. (*50 kg*); Type Y, 80·7 lb. (*40 kg.*); Type U, 64·5 lb (*32 kg./m.*); Type F, 60·5 lb. (*30 kg.*); Type P, 51·4 lb. (*25·5 kg.*); Type L, 50·4 lb. (*25 kg.*); and older rail of varying weights.

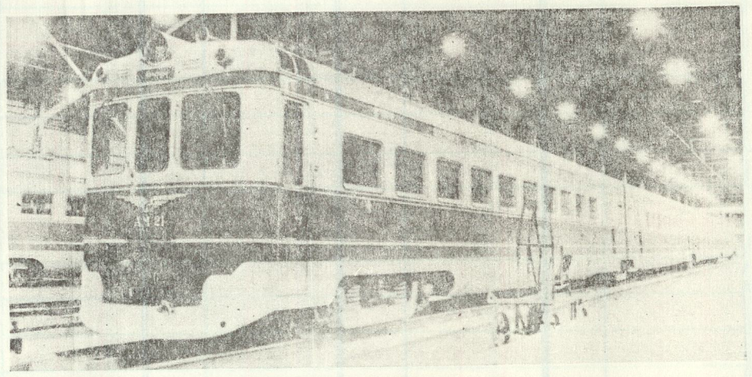
1·676 m. gauge	Types K, Z, Y; also 76·6 lb. (*38 kg.*).
1·435 m. ,,	Type F; also 85 lb. (*42·16 kg.*).
1·000 m. ,,	Types U, L, P; also 70·6 lb. (*35 kg.*), 55·7 lb. (*27·5 kg.*), and 54·4 (*27 kg.*).
0·600 m. ,,	50·4 lb. (*25 kg.*) and 30·3 lb. (*15 kg.*).

Sleepers (cross ties) Wood, 5·9 in. (*15 cm.*) deep × 7·9 in. (*20 cm.*) wide; except on rack rail section of F.C. Transandino:—metal.

Spacing, main lines 3,025 per mile (*1,880 per km.*).
,, branch ,, 2,415 ,, ,, (*1,500 ,, ,,*).
,, rack rail 1,835 to 3,100 per mile (*1,140-1,930 per km.*).



Above:
Ultrasonic equipment used for inspection of rolling stock.



Left:
Diesel motor unit train of Chilean State Railways.

ANTOFAGASTA (CHILI) AND BOLIVIA RAILWAY COMPANY

1, BROAD STREET PLACE, FINSBURY CIRCUS,
LONDON, E.C.2

Local Office: ANTOFAGASTA, CHILE

General Manager:	E. J. Barrie
Deputy Manager:	J. R. P. McCrindle
Chief Accountant:	J. Lawrence.
Resident Engineer:	T. K. Schrader
Traffic Manager:	S. R. Dixon
Waterworks Engineer:	J. L. Hill
Stores Superintendent:	A. J. Brown
Chief Mechanical Engineer:	S. R. G. Waring (at Mejillones)

After prolonged negotiations between Representatives of the Government and the Company, terms were finally agreed upon for the transfer to the Bolivian Government of the Antofagasta (Chili) & Bolivia Railway Company Ltd.'s railway properties etc., in Bolivia, together with that Company's Share and Bondholding in its American Subsidiary The Bolivia Railway Company. A Government Decree was issued on 20 December, 1967 giving effect to this transfer and setting out the terms thereof. (See Bolivia).

In Chile the Company continues to operate its lines normally. In 1967, following a successful pilot scheme, the construction was authorised of thirty 25-ton open goods wagons in the Company's own Workshops at Mejillones utilising parts of existing wagons for this purpose. This programme may be further extended in the future.

MOTIVE POWER

With the purchase in 1964 of 7 General Motors diesel-electric locomotives, 4 Co-Co 1,425 h.p. type GR12, and 3 Bo-Bo 950 h.p. type GA8, all operations are now completely dieselized. Total train miles in 1966 were 703,754 (*1,133,259 km.*).

COLOMBIA

Board of Directors

President: Minister of Public Works:—Bernardo Garces Cordoba

Principal Members: Oscar Gomez Villegas, Camilo Herrera Prado, Hernando Vargas Rubiano, Jose Vicente Davila Tello

Secretary General: Alberto Suarez Hoyos

Officers

General Manager: Javier Ramirez Soto

Commercial Director: Juan Gongora Diaz

Chief, Department of Economic and Commercial Research: Jaime Rincon Camacho

Chief Statistical Department: Pedro Julian Alonso Castro

NATONAL RAILWAYS OF COLOMBIA

FERROCARRILES NACIONALES DE COLOMBIA, CALLE 13, No. 18-24 BOGOTÁ

Tabulated data on page 100.

RAILWAY DEVELOPMENTS 1966/67

In 1966 there were few limitations for importing raw materials and other goods so railway operations were favoured. In 1967 the conditions were very different; on one side local traffic increased, helped by aggressive commercial activity by the management, on the other, import dropped sharply, due to restrictions imposed by the government.

Other upsetting circumstances for railway operations in 1967 were the following:
(a) The exchange rate was raised.
(b) The interest on foreign loans was raised by 50% due to the new exchange rates.
(c) The price of fuels and other materials increased by 14%.
(d) After a new labour contract with the trade unions signed in 1967, wages increased by 9%.

In order to improve efficiency, repair and renewal track work was increased and new traction equipment and rolling stock were ordered.

Future plans include an overseas order for 60 diesel-electric locomotives and 1,200 freight cars. The first of these units will be shipped at the end of 1968. Delivery will take 18 months. In addition 200 box cars are being assembled in the country.

Long range investment programmes have been submitted and approved by the government based on the loans under negotiation with the International Bank, with the obligation, that the Government authorities include in their bugdet the necessary amounts for the investment programme.

FUTURE REQUIREMENTS

ROLLING STOCK

Diesel-electric locomotives	60 over 2 years
Passenger Train cars	12 per year
Freight train cars	300 per year

TRACK WORK DURING 1967

Locations of New Lines

	miles	*km.*
Santa Marta	9	14
Cienaga	5	8
Fundacion	3	5
Monos-Cabanas	3	5
Total	20	32

TRACK REMOVED
In the locations mentioned above track was removed on 16 miles (*25 km*)

NEW LINES
The new lines were laid with 75/40 lb. (*32·2/20 kg.*) A.S.C.E. rails.

TIE PLATES UNDER RAILS
Tie plates were laid on 55 miles (*87·23 km.*) of new and rehabilitated lines.

WELDED RAILS
Railwelding of a 54 mile (*86 km.*) section of 60 lb. (*30 kg.*) track is under study. Rail will be welded to a length of 120 ft. (*36 m.*).

SIGNAL AND TRAIN CONTROL INSTALLATION
Various equipment was ordered from abroad for train control.

MARSHALLING YARDS 1967
REBUILT YARDS

	miles	*km.*
Santa Marta	9	14
Bogota	4	6

FINANCIAL DETAILS

	1964	*1965*	*1966*	*1967*
Revenue (*000's of* $)	246,389	223,923	320,009	329,739
Expenses	289,704	310,632	333,353	400,315
Operating ratio	118	139	104	121

TRAFFIC DETAILS

Freight	*1964*	*1965*	*1966*	*1967*
Tonnes carried (000)	3,317	3,062	3,312	3,168
Tonne-kms (000)	952,298	890,439	1,113,679	996,326
Av. haul per tonne (km.)	287·1	290·8	336·3	314·4
Freight Revenue (000's of $)	194,375	181,302	253,298	252,324
Passenger				
Number carried (000)	7,369	6,475	5,761	4,755
Passenger-km (000)	546,317	513,255	491,485	418,392
Average journey (km)	74·1	79·3	85·3	87·9
Passenger revenue (000's of $)	28,011	28,372	30,489	33,349

COSTA RICA

Area: Approx. 50,900 sq. miles

Population (1966): 1,540,800

The country is served by three railroads, one of which is electrified and the other two using oil-burning (diesel) locomotives which have a joint total trackage of 1,300 km.

F.C. ELECTRICO AL PACIFICO

APARTADO 543, SAN JOSÉ.

General Manager: Ing. Guillermo Lara Bustamente

The Ferrocarril Eléctrico al Pacifico, government owned, maintains an electrified service on a 3 ft. 6 in. gauge line between San José and Puntarenas, 72 miles (*116 km.*). Equipment includes 13 electric locomotives (four of 1,475 h.p., eight of 820 h.p., and one of 410 h.p.) four diesels (two of 131 h.p., and two of 270 h.p.) and 19 self-propelled railcars. It runs 12 trains daily.

FERROCARRIL DEL NORTE

(Northern Railway Company)

APARTADO 1308, SAN JOSÉ, COSTA RICA

President and General Manager: Charles W. Averre

Operates, as one system, the lines of two companies:—

Costa Rica Railway Co., Ltd.
69 Old Broad Street, London, E.C.2, England and its subsidiary.

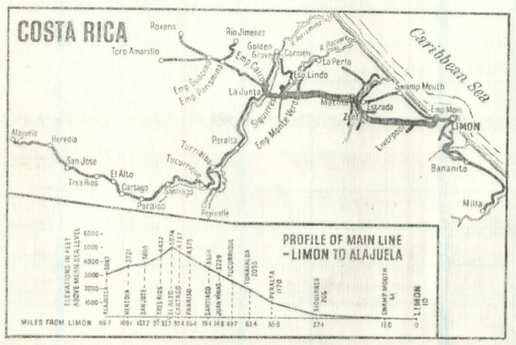
Northern Railway Company (Costa Rica)
82 Bearer St., New York, N.Y. 10005 U.S.A.

The Ferrocarril del Norte, controlled by British interests, links, by a narrow gauge line, (3 ft. 6 in.) the capital and Puerto Limon 72 miles (*116 km.*) and maintains services between these points:—San José and Alajuela 13 miles (*20·9 km.*) La Junta and Toro Amarillo 22 miles (*35·4 km.*) and Limon and Atalanta 33 miles (*53·4 km.*) Its equipment includes 27 diesel locomotives and 31 railcars.

FERROCARRIL DEL SUR

C/O UNITED FRUIT COMPANY, CALIFORNIA, U.S.A.

The Ferrocarril del Sur, owned by the United Fruit Company of the U.S.A. through Cia. Bananera de Costa Rica serves the southern part of the country and the port of Golfito.



Railway data on page 102.

CUBA

Total Land Area	44,206 square miles
Total Population	7,068,000 (1962)
Annual Increase in Population	2·1 per cent
Population Density	160 per square mile

LAND USE (1946)	Per cent
Urban Areas and Wasteland	38
Forests and Woodland	11
Permanent Meadow and Pasture	34
Arable and Orchard	17

LABOUR FORCE (1953) Total: 1,973,000	Per cent
Agriculture, Forestry and Fisheries	41
Mining, Manufacturing, Building and Public Utilities	21
Services and Distribution	32
Transport	5
Other	1

Note: Tabulated data on page 102.

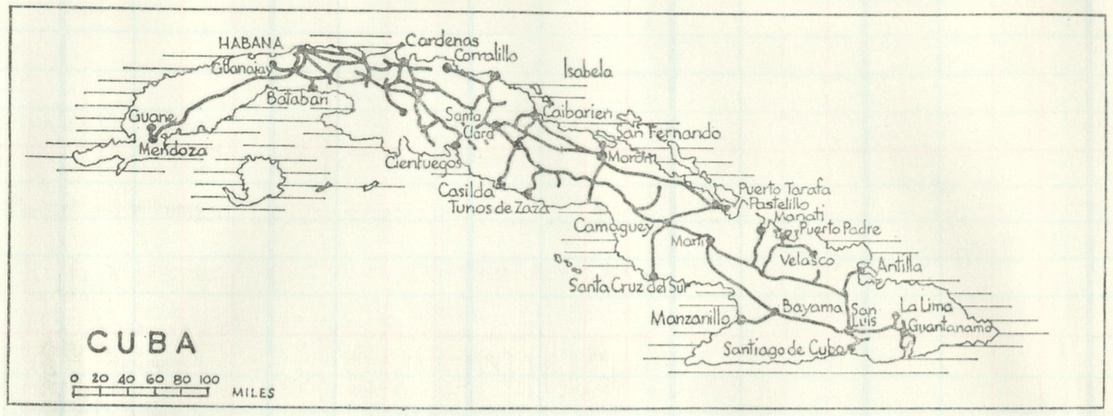
Cuba, the largest island in the West Indies, with an area of 44,206 square miles is roughly 780 miles long and 55 miles wide, and lies about 100 miles south of Florida. Cuba's economy is mainly based on agriculture, sugar and tobacco being the principal products.

In the Republic of Cuba there are still two railway systems: that of the public railway companies and that of the sugar industry. The public network comprises 3,154 miles (*5,079 km.*), that of the sugar industry 5,296 miles (*9,528 km.*); 3,970 miles (*6,392 km.*) wide gauge, 1,326 miles (*2,136 km.*) narrow gauge. After Argentina, Brazil, Mexico and Chile, the Republic of Cuba has the densest railway network in Latin America 8·6 miles of rail per 62 square miles (*13·9 km./100 km.²*). After the establishment of Castro's People's Republic, work concentrated on development of the public railway system.

In 1965 there were 12·4 million passengers and goods transport amounted to 1,300 million tons per km. The employees numbered approximately 16,000.

At present the tracks are being renewed with U.S.S.R. rails, wooden bridges are being replaced by concrete ones and some unprofitable branch lines are being closed down and replaced by road transport. For the first time Cuba has introduced an express inter-city service (imported and air-conditioned Pullman restaurant and entertainment cars). In 1966 80 diesel locomotives of 2,500 h.p. were imported, 40 from the U.S.S.R., 30 from France and 10 from Great Britain.

The rolling stock on the sugar industry railway is only used during the sugar cane harvest (100 days). Cuba intends to increase its sugar production to 10 million tons in the next few years and modernise the railway network simultaneously, as well as using it for the transport of other agricultural products and minerals.



DOMINICAN REPUBLIC

Total Land Area	18,816 square miles
Total Population	3,205,000 (1962)
Annual Increase in Population	3·5 per cent
Population Density	170 per square mile

The Dominican Republic occupies the eastern half (Haiti, the western half) of the island of Hispaniola, the second largest and most mountainous island in the West Indies. Its economy is agricultural, the main crop being lime fruit.

In addition to the railways shown on page 102, there are some hundreds of miles of plantation lines.

ECUADOR

STATE RAILWAYS OF ECUADOR

EMPRESA DE LOS FERROCARRILES DEL ESTADO, BOLIVAR 443, QUITO, ECUADOR

The Republic of Ecuador, 106,178 square miles in area, is bordered by the Pacific Ocean on the west, Colombia on the north, and Peru on the south and east. There are 6 public service railways all owned and operated by the Government, and several industrial railways. Tabulated data on page 104.

The Quito plateau is about 9,375 ft. (*2,867 m.*) above sea level. In 49 miles (79 *km.*) the F.C. de Guayaquil á Quito climbs 9,650 ft. (*2,942 m.*).

The railways comprising the State system are:—

Railway	*Gauge*	*Route length miles*	*km.*
F.C. Guayaquil-Quito	3 ft. 6 in. (*1·067 m.*)	281	452
*F.C. Quito-San Lorenzo	,,	232	373
F.C. Sibambe-Azogues	,,	72	116
F.C. Puerto Bolivar-Pasaje	,,	16	25
F.C. Puerto Bolivar-Piedras	2 ft. 5½ in. (*0·750 m.*)	46	75
F.C. Bahia-Chone	,,	50	80
		697	*1,121*

*The F.C. Quito-San Lorenzo is operated as a separate railway.

In 1966 it was announced that the State Railways was to be rehabilitated and 102 million Sucres would be spent during the next six years with authorisation to obtain loans up to 20·2 million Sucres from abroad for railway modernisation.

The poor condition of rolling stock and of the permanent way, left without renewal during the past twenty years, gives rise to a permanent national problem. To remedy the situation a programme of rehabilitation and reorganisation of the State Railways is long overdue.

Studies have been carried out by Parsons, Brickerhoff, Quade Douglas of U.S.A. in 1963 on behalf of the World Bank. These were used as a basis for the development policy adopted in the Plan of Development.

Studies by Livesey Henderson of Great Britain on behalf of the Ecuador government in 1964 recommended, as the first step, the rehabilitation of the railway from Guayaquil-Quito-Cuenca, showing that it is essential to maintain rail services on this line in order to assist the commercial, industrial, agricultural, social and cultural development of the country. The closure of this railway would cost the Government more than rehabilitation.

Under Decree No. 180 on Railway Rehabilitation, work will proceed immediately on the modernisation and rehabilitation of the Guayaquil-Guito-Cuenca line. A first allocation of ten million Sucre was made in 1966 for the Quito-Ibarra-San Lorenzo railway.

Total

Total

Total

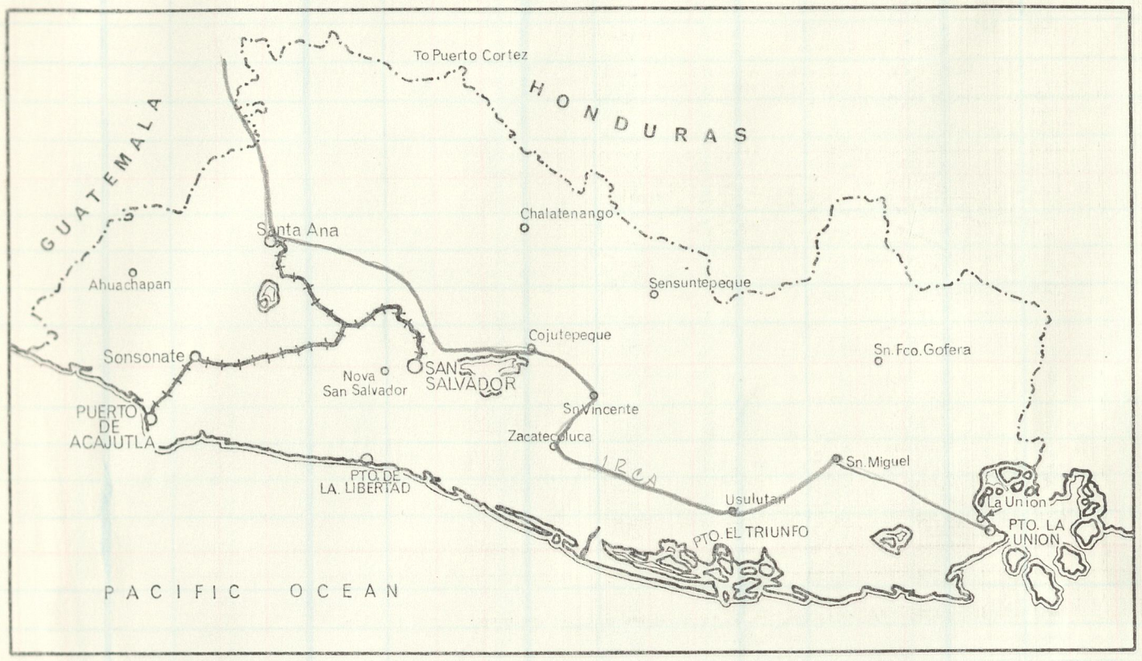
EL SALVADOR

El Salvador is the smallest country in Central America. There are two main railways: the former British owned Salvador Railway Co. compulsorily acquired by the Government in October 1962, whose line runs from Acajutla on the Pacific coast to Santa Ana and to San Salvador, where it connects with the line to Cutuco of the U.S. owned International Railways of Central America which operates a connected system in El Salvador and Guatemala. See page 100.

Total Land Area	8,259 square miles
Total Population	2,810,000 (1962)
Annual Increase in Population	3·5 per cent
Population Density	340 per square mile

Bonds for 10 million Colons at 7% were issued in 1967 for the construction of six jetties, to handle 1,200,000 tons of cargo, in the port of Acajutla. The work will include the construction of conveyor belts and warehouses for containers. It will be connected by rail to the capital.

A new jetty is also being constructed at La Libertad which will be 656 ft. (*200 m.*) long and will cost 1m. colons.



GUATEMALA

Railway data on page 104

Railways in the Central American republic of Guatemala comprise the International Railways of Central America, whose line runs across the border into El Salvador, and two railways connecting sugar plantations with the I.R.C.A.

Total Land Area	42,042 square miles
Total Population	4,017,000 (1962)
Annual Increase in Population	3·0 per cent
Population Density	96 per square mile

LAND USE (1950)	Per cent
Urban Areas and Wasteland	37
Forests and Woodland	44
Permanent Meadow and Pasture	5
Arable and Orchard	14

LABOUR FORCE (1950) Total: 968,000	Per cent
Agriculture, Forestry and Fisheries	68
Mining, Manufacturing, Building and Public Utilities	15
Services and Distribution	15
Transport	2
Other	0

GUIANA

Guiana, a stretch of territory on the Atlantic coast between Venezuela and Brazil having a coastal plain with a high plateau inland, is divided into **Guyana**, **Surinam** (Dutch Guiana) and **Cayenne** (French Guiana). Sugar, a variety of timbers from the heavily forested areas, and valuable minerals including bauxite, are the main products.

There are Government owned public service railways in British Guiana and in Surinam, as well as several industrial lines. See pages 104 and 110.

Total Land Area	83,000 square miles
Total Population	590,000
Annual Increase in Population	3·1 per cent
Population Density	7 per square mile

LABOUR FORCE (1946) Total: 147,000	Per cent
Agriculture, Forestry and Fisheries	46
Mining, Manufacturing, Building and Public Utilities	24
Services and Distribution	25
Transport	4
Other	1

Currency $4·80 Guyana=£1 (1968)

GUYANA RAILWAYS

TRANSPORT AND HARBOURS DEPARTMENT,
MAIN STREET, GEORGETOWN, GUYANA

General Manager: J. W. Evelyn

The Department operates the railways, coastal and river services, inland road transport services ,and a harbour and pilotage service.

Because the 200 mile long low-lying coastal plain is intersected by so many rivers, varying from half a mile to two miles wide (the estuary of the Essequibo River is 20 miles wide), land communications are difficult.

The railway consists of two separate lines running parallel to the seaboard. The 60-mile standard gauge single track East Coast Line runs from the west bank of the Berbice River, opposite New Amsterdam, to Georgetown, on the east bank of the River Demerara. A ferry connects across the river with the West Coast Line, 20 miles of 3 ft. 6 in. gauge single track, which runs to Parika on the east bank of the Essequibo River.

In 1967 the Government decided to phase out the railway over the next five years in favour of road transport.

Traffic details

	1962	*1963*	*1964*	*1966*
Revenue ton-miles (000)	1,336	458	941	1,102
,, passenger-miles (000)	48,128	35,254	36,852	37,527
Total train-miles (000)	385	248	306	—

Other Railways

In addition to the Guyana Government Railways there are ore railways in the interior:—

Demba Railroad owned and operated by the Demerara Bauxite Company.

Manganese Railway owned and operated by the Manganese Mining Company.

HAITI

The Republic of Haiti occupies the western end of the island of Hispaniola, the remainder forming the Republic of Dominica. The main crop is sugar. See page 104 for tabulated data on railways.

Total Land Area	10,714 square miles
Total Population	4,364,000 (1962)
Annual Increase in Population	1·2 per cent
Population Density	406 per square mile

LAND USE (1950)	Per cent
Urban Areas and Wasteland	44
Forests and Woodland	25
Permanent Meadow and Pasture	18
Arable and Orchard	13

LABOUR FORCE (1950) Total 1,747,000	Per cent
Agriculture, Forestry and Fisheries	83
Mining, Manufacturing, Building and Public Utilities	6
Services and Distribution	8
Transport	—
Other	3

HONDURAS

Railway data on page 104

With the Caribbean Sea as its northern border, Guatemala on the west, El Salvador on the south and Nicaragua on the east, Honduras is primarily agricultural, other products being sugar, coffee, mahogany, cotton, gold, silver, opals, fish and iron.

GENERAL

The Honduras National Railway consists of 106 miles (*170 km.*) of 3 ft. 6 in. track. During 1967 revenue amounted to U.S. $500,000 and expenses to U.S. $200,000. 90% of tractive power is diesel-electric and 10% diesel railcar; 30 new freight cars were added during the year and 40 are on order for 1968.

POWER UNITS

The 6 diesel electric locomotives are 1,050 h.p., continuous tractre effort of 33,990 lb (*15,422 kg.*); powered by Caterpillar D-398, 12 cylinder, V-type 1,300 r.p.m., turbo-supercharged engines.

FERROCARRIL NACIONAL DE HONDURAS

SAN PEDRO SULA, DPTO. DE CORTES, HONDURAS, C.A.

Minister of Communications and Public Works:	General Oswoldo Lopez Arellano
Auditor:	P. M. Tomas Osorio
General Manager:	Dr. Herman Pascua L.
Assistant General Manager:	Edgardo Paz Paredes
Chief, Freight and Passenger Traffic Dept.:	Dionisio Romero
Chief, Operating Dept.:	Jacobo D. Rosales
Chief, Workshops:	Herman Miranda
Chief, Maintenance of Rolling Stock:	Ing. Norberto Torres R.
Chief, Medical Dept.:	Dr. Herman Pascua L.
Inspector General:	Arnulfo Suazo M.

JAMAICA

Railway data on page 104.

Total Land Area	4,411 square miles
Total Population	1,641,000 (1962)
Annual Increase in Population	2·0 per cent
Population Density	372 per square mile

LAND USE (1959)	Per cent
Urban Areas and Wasteland	39
Forests and Woodland	18
Permanent Meadow and Pasture	23
Arable and Orchard	20

LABOUR FORCE (1953) Total: 615,000	Per cent
Agriculture, Forestry and Fisheries	49
Mining, Manufacturing, Building and Public Utilities	17
Services and Distribution	25
Transport	3
Other	6

The Jamaica Railway is the only common carrier, but there are several industrial railways.

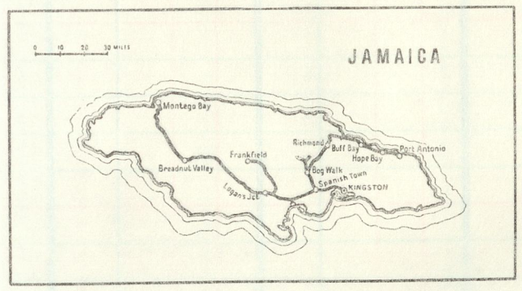
JAMAICA RAILWAY CORPORATION

KINGSTON, JAMAICA

General Manager and Secretary:	U. H. Salmon
Finance Controller:	D. I. Thomas
Traffic Manager:	L. B. McNally
Chief Civil Engineer:	A. A. Bennett
Chief Mechanical Engineer:	C. A. Duncan
Personnel Manager:	R. A. Walker
Chief Accountant:	S. O. Wignall

This is a Government-owned but autonomous organisation which took over all railway operations on 1 April 1960.

Financial Details	*1963*	*1964*	*1965*
Revenue £	989,029	1,096,856	1,138,000
Expenses £	1,174,472	1,257,352	1,245,000
Operating ratio	119	115	110
Traffic Details			
Tons of freight carried	1,344,597	1,930,479	—
Passengers carried	974,466	1,038,295	—



NICARAGUA

Nicaragua, the largest Central American country, is bounded by the Caribbean on the east, the Pacific on the west, with Honduras to the north and Costa Rica to the south. A northern extension of the Andes cuts across the country in a north-westerly direction. There is one major railway which is Government owned and operated, and several industrial and sugar plantation lines. See page 106 for tabulated details.

Total Land Area	57,143 square miles
Total Population	1,477,000
Annual Increase in Population	3·4 per cent
Population Density	26 persons per square mile

LAND USE (1959)	Per cent
Urban Areas and Wasteland	47
Forests and Woodland	44
Permanent Meadow and Pasture	3
Arable and Orchard	6

LABOUR FORCE (1950) Total: 330,000	Per cent
Agriculture, Forestry and Fisheries	68
Mining, Manufacturing, Building and Public Utilities	15
Services and Distribution	15
Transport	2

PANAMA

The Central American Republic of Panama occupies the narrowest part of the American continent. Except for industrial lines ,the only railways are in the Canal Zone and in the extreme southwest. See page 106 for details of railways in Panama.

Total Land Area	28,575 square miles
Total Population	1,139,000 (1962)
Annual Increase in Population	2·7 per cent
Population Density	40 per square mile

LAND USE* (1952)	Per cent
Urban Areas and Wasteland	16
Forests and Woodland	71
Permanent Meadow and Pasture	7
Arable and Orchard	6

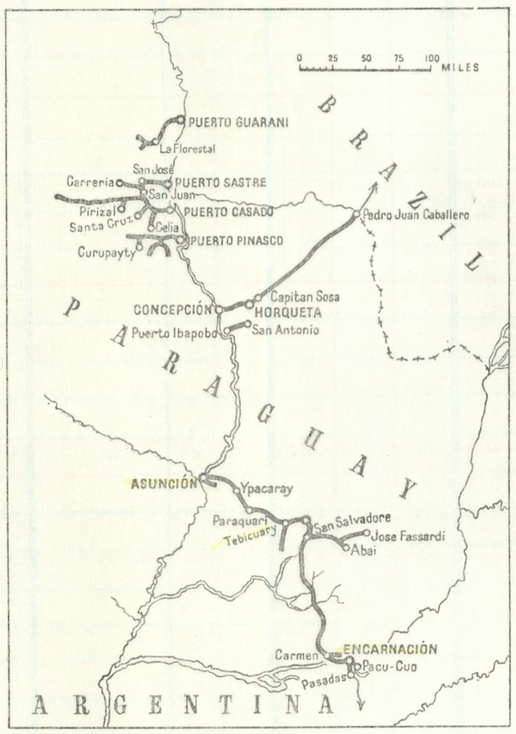
EMPLOYED PERSONS (1950) Total 241,000	Per cent
Agriculture, Forestry and Fisheries	55
Mining, Manufacturing, Building and Public Utilities	11
Services and Distribution	24
Transport	3

PARAGUAY

Paraguay is a landlocked country, 157,000 square miles in area, roughly divided into two parts by the Paraguay River which is navigable, for vessels drawing twelve feet of water, as far as Asuncion, the capital. There are ten separate railways, only two being common carriers, the F.C. Central del Paraguay and the F.C. del Norte, the other eight being purely industrial.

The F.C. Central del Paraguay, at 277 miles (446 km.) length is the longest in the country, extending from Asuncion southeast to Encarnacion and Pacú-Cua, with a branch from San Salvador to Abai. At Encarnacion a train ferry across the River Alto Parana connects at Posadas with the Argentine State Railways (F.C. General Urquiza).

The name of the F.C. Central was changed in 1964 to F.C. Presidente Carlos Antonio Lopez.



Railway data on page 106.

PERU

Peru has an area of roughly 534,000 square miles and is bounded by the Pacific Ocean to the west, Ecuador and Columbia to the north, Brazil and Bolivia to the east, and Chile to the south. The railways are generally located in the western and southern regions of the country and include a number of industrial railways. To improve railway facilities in the South of Peru, largely on account of the importance of the Bolivian traffic and the steadily increasing volume of traffic generally, the Peruvian Government constructed a modern port at Matarani some twelve miles north of Mollendo and a railway connection 39 miles (62·3 km.) long from the port to La Joya, at km. 87 on the Southern Railways main line from Mollendo.

There are about 2,700 miles of railway in Peru of which the Peruvian Corporation operates some 40%, the remainder being roughly divided between Government-owned and privately-owned lines. Details of all the railways are given in the Tabular Section, page 106.

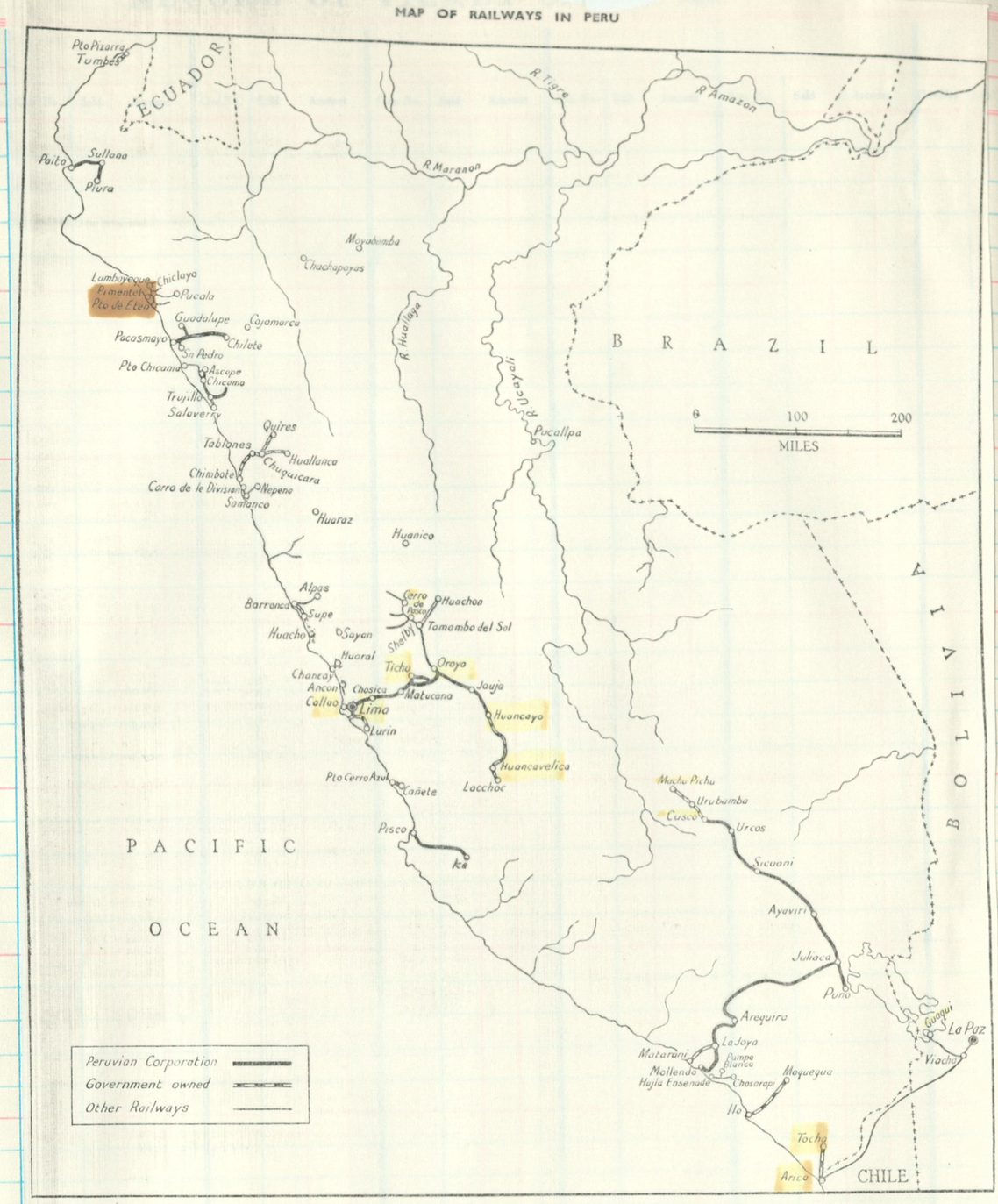
FERROCARRIL CENTRAL DEL PERU

PERUVIAN CORPORATION LTD., CASILLA 301, LIMA, PERU

This line runs from Callao and Ancon, via Lima and Oroya (junction with Cerro de Pasca Railway) to Huancayo (junction with F.C. Huancayo-Huancavelica). Certain sidings and section of the Lima Callao line totaling 11 track miles which were electrified at 600 volts d.c. were converted to diesel traction in 1965.

The branch line between Lima and Qucon, 23 miles (37 km.) long, has been closed down and track removed due to the closing of the Government-owned feeder line.

MAP OF RAILWAYS IN PERU



F. C. Central del Peru—*Continued*

There are 66 tunnels with an aggregate length of 5·53 miles (8·9 km.), 59 bridges and 6 double zig-zags (reversing stations) and 1 single on the main line, and 3 double zig-zags on branch lines.

The main line climbs from sea level to its highest point 15,688 feet (4,782 m.) in the Galera Tunnel in 106 miles (171 km.) from Callao.

The highest point on the system is 15,844 feet (4,829 m.) above sea level at a siding at La Cima on the Ticlio-Morococha branch. This makes it the highest standard gauge line in the world.

General Manager:	H. F. Matthews
Traffic Manager:	T. F. Docherty
Chief Accountant:	G. T. Ramsey
Chief Mechanical Engineer:	E. A. Taylor
Stores Superintendent:	C. F. Gilby

MOTIVE POWER TREND

		1964	1965	1966	1967
Proportion of total train miles operated by:—					
Steam traction	%	13·1	7·9	0·6	—
Diesel traction	%	85·0	90·6	99·4	100
Electric traction	%	1·9	1·5	—	—

Future requirements are 1 diesel locomotive, 1 railcar and 50 freight cars over the next five years.

In 1967 23 miles (37 km.) of track was closed between Lima and Ancor. New rail laid was 3,700 tons of 80 lb. (39·7 kg.) rail in 1967 and a further 2,000 tons in 1968.

Total

Total

Total

TRACK DETAILS

Standard rail	80 lb. per yd. (39·7 kg./m.) B.S.(R). 75 ,, (37·2 ,,) B.S.S. 75 ,, (37·2 ,,) A.S.C.E. 70 ,, (34·7 ,,) A.S.C.E. 70 ,, (34·7 ,,) Livesey
Lengths	24, 30, 33, 39 and 46 ft.
Joints	4-hole angle fishplates and bolts.
Cross ties (sleepers)	Peruvian hardwood, 8 in. × 6 in. × 8 ft. 0 in. (*203 × 152 × 2,428 mm.*) Made-up sleepers consisting of 2 blocks of reinforced concrete joined by a piece of used rail have been used in sidings and on short stretches of main line.
Spacing	Main line: 2,575-2,735 per mile (*1,600-1,700 per km.*) Branch line: 2,195-2,735 per mile (*1,365-1,700 per km.*)
Rail fastening	Soleplates and ⅞ in. coachscrews: 80% of track. Soleplates and ⅞ in. dogspikes: 20% of track.
Filling	2 in. to 4 in. broken stone ballast; 6 in. under tie on main lines and 3 in. on branch lines.
Max. curvature	17·5° = min. rad. of 328 ft. (*100 m.*)
,, gradient	4·4% = 1 in 22·7 uncompensated.
Worst combination of curve and grade	512 ft. (*156 m.*) curve on 4·22% (1 in 23·7) grade for 771 ft. (*235 m.*)
Gauge widening on sharpest curve	½ in. (*12·7 mm.*)
Super-elevation on sharpest curve	4 in. (*101·6 mm.*) speed limited.
Rate of slope of super-elevation	1 in 360.
Max. altitude	15,844 ft. (*4,829 m.*) at La Cima siding on Ticlio-Morococha Branch, 107 miles (*173 km.*) from Callao. On main line; 15,690 ft. (*4,782 m.*) inside Galera Tunnel, 107 miles (*172 km.*) from Callao.
,, axle loading	17·1 tons.
Bridge loading	Coopers E-40.
Max. permitted speed	46·6 m.p.h. (*75 km./hr.*) on level and low gradient section. 31 m.p.h. (*50 km./hr.*) on high gradient sections.

FERROCARRILES DEL SUR DEL PERU

PERUVIAN CORPORATION LTD., APARTADO 194, AREQUIPA, PERU

The system consists of the Southern Railway of Peru, from the port of Mollendo via Juliaco to Cusco and to Puno; services on Lake Titicaca (at 12,500 feet above sea level the highest navigable body of water in the world) from Puno to Guaqui, Bolivia; and the Guaqui-La Paz Railway in Bolivia. The F.C. Matarani-La Joya is operated for account of the Peruvian Government.

Although the Southern Railway is a typical mountain line, with severe gradients and innumerable curves, it has only one tunnel.

The railway is operated entirely by diesel traction, although there are a few steam locomotives in store.

General Manager:	E. A. Taylor
Chief Mechanical Engineer:	C. W. Ricketts
Chief Engineer:	C. M. Green
Traffic Manager:	V. C. Foulkes
Chief Accountant	J. G. R. Treharne
Stores Superintendent:	A. H. Davis

RAILWAY DEVELOPMENT

General goods traffic continues on upward trend, as the following figures for the yearly ton-kilometres show:

1693/64	241,997,588	Ton/km.
1964/65	257,360,557	,,
1965/66	265,593,415	,,
1966/67	266,067,006	,,

Passenger movement, however, shows a decline:

1963/64	88,782,322	Pass./km.
1964/65	86,348,849	,,
1965/66	79,019,003	,,
1966/67	80,857,629	,,

The principal traffic consists of heavy and light petroleum fuels shipped from the Port of Mollendo to the interior, followed by exports of Peruvian minerals, wool, and alpaca. Foodstuffs and vegetables from Arequipa to the Altiplane is of importance also.

Total Bolivian goods traffic, via the Port of Matarani and Lake Titicaca, reached 187,898 tons in 1967/66. Imports were mainly flour, wheat, machinery, building materials, vehicles and general merchandise. Exports consisted of minerals, "Peruvian bark" and coffee.

Prospects include the following:—

Matilde Mine:
Situated on the Bolivian side of Lake Titicaca, is projected to start operations early in 1969, exporting some 500 tons of ore daily. The purchase of ferry-boats, containers, flat cars and Diesel electric locomotives are on order.

Cerro Verde Mine:
Near Arequipa, should begin exporting 300 tons daily of copper ore, and will entail the purchase of hopper wagons and motive power.

Bolivian Minerals:
The transport of Bolivian minerals in bins is under study, following a recent trial of this method via Matarani Port from the Catavi mines to Liverpool.

TRACK DETAILS

Standard rail	80 75 and 60 lb. A.S.C.E. 75 and 80 lb. B.S.R., 75 lb. B.S.S.
Joints	4-bolt fishplates.
Cross ties (sleepers)	Wood, 6 in. × 8 in. × 8 ft. (*152 × 203 × 2,438 mm.*); and concrete.
Spacing	2,560 to 2,880 par mile (*1,600 to 1,800 per km.*)
Rail fastening	Screw or dog spike.
Filling	Sand and crushed rock, 4 in. down. Minimum of 5 in. under sleepers.
Max. curvature	17·5° = radius of 328 ft. (*100 m.*)
,, gradient	4·5% = 1 in 22.
Longest continuous gradient	28 miles (*45 km.*) with 3% (1 in 33) ruling gradient and *100 m.* curves.
Worst combination of gradient and curve	4% = 1 in 25 grade with curves of 394 ft. (*120 m.*) radius.
Gauge widening on sharpest curve	¾ in. (*19 mm.*)
Super-elevation on sharpest curve	4 in. (*101·6 mm.*)
Rate of slope of super-elevation	1 in 100.
Max. altitude	Crucero Alto, 14,688 ft. (*4,477 m.*)
,, permitted speed	25 m.p.h. (*40 km./hr.*) on 3% down grade. 50 m.p.h. (*80 km./hr.*) on level.
,, axle loading	Coast to Sta. Lucia: 18·3 tonnes. Sta. Lucia to Juliaco: 17·5 tonnes Juliaco to Cuzco: 13·4 tonnes.

SIGNALLING

Selective Telephone installations are almost complete from the Arequipa Train Control Office to the coast, and well ahead on the remainder of the line to Juliaca. The completion of the installation between Puno and Cuzco will be the third stage of the operation.

RECENT DELIVERIES OF BOGIE FREIGHT CARS

Class	*Type*	*Load tonnes*	*Tare tonnes*	*No. of cars*	*Builder*
1000	Gasoline tank	40	17·7	10	Chas. Roberts, England
1300	Open high-sided	50	17·6	20	Cravens Ltd. England
1500	Aluminium hopper	50	14·9	6	,, ,, ,,
1600	Well	35	22·6	1	Railway workshops
3000	Aluminium dual-purpose covered cattle	40	13·5	75	Cravens Ltd. England

CONTAINERS

The Ferrocarril del Sur owns 70 light alloy containers used on the Peru-Bolivia route. They are numbered F.C.S 1-70. Their outside dimensions are 6 ft. 10½ in. (*2·08 m.*) L × 7 ft. 10½ in. (*2·39 m.*) W × 6 ft. 10½ in. (*2·08 m.*) H.

CONTAINER TERMINALS USED BY F.C.S.

Address	*Route*	*Transport System*
Matarani, Peru	Matarani-Puno	Southern Rly.
Guaqui, Bolivia	Puno-Guaqui	Lake Steamer
La Paz, Bolivia	Guaqui-/La Paz	Guaqui Rly.
Oruro, Bolivia	Guaqui-/Oruro	Guaqui Rly.
Cochabamba, Bolivia	Guaqui-/Cochabamba	/and /State Railway

TRACKWORK IN 1966-67

1 mile (*1·8 km.*) of new track was laid in sidings and ½ mile (*0·8 km.*) of old rail removed. The new rail laid was 24·3 miles (*39·2 km.*) of 80 lb. (*39·7 kg.*) and 119 yards (*109 m.*) of 75 lb. (*37·2 kg.*) rail.

TRINIDAD

Railway data on page 110.

TRINIDAD GOVERNMENT RAILWAYS

PORT OF SPAIN, TRINIDAD

General Manager: John Cooper

The principal products of Trinidad, which has an area of 1,980 square miles, are agriculture (sugar, cocoa and citrus fruits); petroleum; and asphalt. In addition to the Trinidad Government Railway there are 5 industrial lines owned and operated by sugar estates.

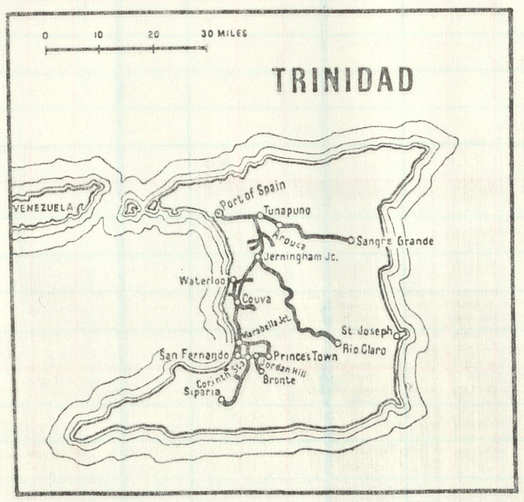
It is officially reported that the Railway system is being phased out, and is very nearly on the verge of complete non-operations.

Total distance of passenger track is in the vicinity of 12 miles (*19 km.*) representing the final stage of withdrawal, which is expected to be complete by the end of this year.

LAND USE (1958)	*Per cent*
Urban Areas and Wasteland	19
Forests and Woodland	46
Permanent Meadow and Pasture	1
Arable and Orchard	34

LABOUR FORCE (1956) Total: 267,000	*Per cent*
Agriculture, Forestry and Fisheries	25
Mining, Manufacturing, Building and Public Utilities	34
Services and Distribution	32
Transport	8
Other	1

RAILWAY DEVELOPMENTS	*1962*	*1963*	*1964*
Passengers carried	4,401·5	3,728·1	4,588·7
Ton mileage	6,425·2	6,407·2	4,557·8
Revenue	1,415·9	907·2	899·2
Expenses	4,462·3	4,668·6	4,550·6
Operating Ratio			



URUGUAY

Total Land Area	72,172 square miles
Total Population (Oct. 1963)	2,592,600
Population Density	20 per square mile
1 U.S. $ = 200 U.R.P. (Pesos)	

LAND USE (1967)	%
Urban Areas and Wasteland	27
Permanent Meadow and Pasture	53
Arable and Orchard	18
Forests and Woodland	2

Uruguay is bordered by Argentina on the west, Brazil on the northeast, and the Atlantic on the south. All the common carrier railways, which radiate from Montevideo, are State-owned and are operated on behalf of the Government by this autonomous organisation formed in September, 1952.

A Commission was appointed in 1958 to examine the whole transportation system in Uruguay.

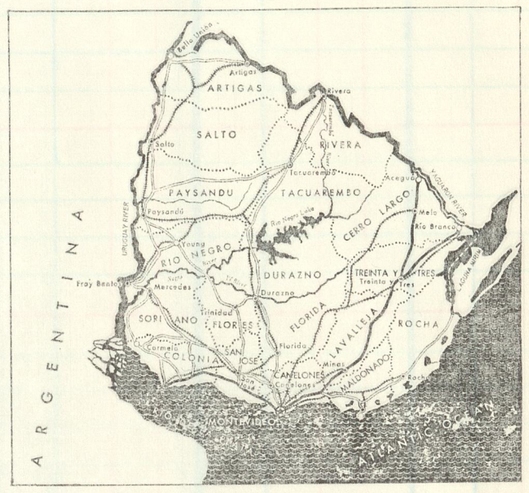
There are 1,866 miles (*3,008 km.*) of track in Uruguay providing a link with Argentine and Brazil.

STATE RAILWAYS ADMINISTRATION

ADMINISTRACIÓN DE FERROCARRILES DEL ESTADO (A.F.E.), LA PAZ 1095, MONTEVIDEO, URUGUAY

President:	Julio C. Bustelo
Vice-President:	Ramón Cotelo
Directors:	Ing. Armando Bartharuru Juan Carlos Elizeire J. Ferreira Ramos
Secretary General:	Prof. Jorge Baliñs Barbagelata
General Manager:	Ing. Delfino Fros Torres
Assistant General Manager:	Ing. Julio J. Ader
Secretary General, Management:	Antonio M. Damasco
Manager, Accountancy Dept.:	Cr. Hamlet Tarrallo Ricaud
,, *Rolling Stock and Traction:*	Ing. Carlos Peixoto
,, *Operating Dept:*	Ing. Paul H. Bernier
,, *Way and Works:*	Ing. Mateo Esteva Sureda
Chief, Signalling and Communications:	Ing. Francisco Puppo
,, *Stores Dept:.*	Hector H. Hernandez
,, *Medical Dept.:*	Dr. Julio Estefan

Railway data on page 110.



VENEZUELA

Total Land Area	352,000 square miles
Total Population	7,872,000 (1962, Excluding Indian Jungle Population)
Annual Increase in Population	4·3 per cent (1953-61)
Population Density	22 per square mile

LAND USE (1956)	*Per cent*
Urban Areas and Wasteland	56
Forests and Woodland	21
Permanent Meadow and Pasture	20
Arable and Orchard	3

EMPLOYED PERSONS (1950) Total: 1,599,000	*Per cent*
Agriculture, Forestry and Fisheries	44
Mining, Manufacturing, Building and Public Utilities	20
Services and Distribution	31
Transport	3
Other	2

VENEZUELA STATE RAILWAYS

INSTITUTO AUTÓNOMO ADMINISTRACIÓN DE FERROCARRILES DEL ESTADO. ESTACIÓN CAÑO AMARILLO, CARACAS

General Manager: Dr. Andrés Reveron Larré

The State owned system is undergoing a complete reorganisation. The programme of reconstruction of existing lines and building new lines is in progress.

The lines open to traffic are:—

1. F.C. Puerto Cabello-Barquisimeto: 109 miles (*175 km.*)
2. Gran F.C. de Venezuela: 109 ,, (*176 ,, *)
3. Gran F.C. del Tachiro: 75 ,, (*120 ,, *)

Motive power in service on these lines:—

1. F.C. Pto Cabello-Bqto: 6—1,750 h.p. GM diesel-electric locomotives
   3— 450 h.p. GE ,, ,,
   7— 415 h.p. Fiat diesel-hydraulic railcars
   5— 145 h.p. ,, ,, ,,
2. G.F.C. de Venezuela: 8— 730 h.p. GE diesel-electric locomotives
   4— 650 h.p. Wickham diesel-electric railcars
3. G.F.C. del Tachiro: 4—steam locomotives
   2—diesel-electric railcars

Traffic details		*1963*	*1964*	*Increase*
Freight-tonnes carried:	1	50,661	129,133	155%
	2	64,446	83,700	30%
	3	8,294	10,166	22%
	Total	123,401	222,999	81%
Freight-kms:	1	6,244,706	13,264,628	113%
	2	8,845,046	11,218,427	78%
	3	410,335	536,756	31%
	Total	15,500,087	25,019,811	61%
Passengers carried:	1	213,927	409,629	92%
	2	30,894	17,579	—44%
	3	41,936	55,910	33%
	Total	286,757	483,118	68%
Passenger-kms:	1	18,779,487	34,266,354	83%
	2	2,623,858	1,629,483	—38%
	3	1,470,003	1,863,000	27%
	Total	22,873,348	37,758,837	65%

Railway data on page 110.

PENN CENTRAL - METROPOLITAN REGION RECORD OF TICKET SALES AT

SELLER

DATE

FORM	DESTINATION	Amt.	Com. No.	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold

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PENN CENTRAL - METROPOLITAN REGION

RECORD OF TICKET SALES AT

SELLER

DATE

FORM	DESTINATION	Amt.	Com. No.	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold

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PENN CENTRAL - METROPOLITAN REGION RECORD OF TICKET SALES AT

SELLER

DATE

FORM	DESTINATION	Amt.	Com. No.	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold	Amount	Clos. No.	Sold	Amount	Clos. No.*	Sold	Amount	Clos. No.	Sold	Amount	Clos.No.	Sold

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Alternate Mondays	Baltimore to New Orleans, Houston, Brownsville, Port Isabel.
Wednesdays	Philadelphia to Miami, New Orleans, Houston, Brownsville, Port Isabel.
Sundays	Miami to New Orleans, Houston, Brownsville, Port Isabel.
Alternate Sundays	Miami to New York, Philadelphia.
Thursdays	New Orleans to Houston, Brownsville, Port Isabel, New York, Philadelphia.
Alternate Thursdays	New Orleans to Boston, Baltimore, Miami.
Saturdays	Houston to Brownsville, Port Isabel, New York, Philadelphia.
Alternate Saturdays	Houston to Boston, Baltimore, Miami.
Sundays (Monthly)	Corpus Christi to Miami, New York, Baltimore, Philadelphia.
Tuesdays	Brownsville to New York, Philadelphia.
Alternate Tuesdays	Brownsville to Boston, Baltimore, Miami.
Wednesdays	Port Isabel to New York, Philadelphia.
Alternate Wednesdays	Port Isabel to Boston, Baltimore, Miami.

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New Orleans	1024 Whitney Building (Raymond 0811)	Atlanta	William Oliver Building
Tampa	Municipal Docks (Tel. 2070)	Cleveland	925 Euclid Avenue
Baltimore	21 South Street (Tel. Calvert 6275)	Dallas	1309 Cotton Exchange Building
Boston	20 Broad Street (Tel. Capitol 3050)	Halifax	51 Upper Water Street
Detroit	(Freight) 556 Book Building (Tel. Cadillac 4410) (Passenger) 1255 Washington Boulevard	Los Angeles	715 West 7th Street
Miami	Pier 3, Municipal Docks (Tel. 3-5701)	Montreal	Dominion Square Building (corner Peel & St. Catherine Streets)
Houston	Municipal Dock 13 (Tel. Capitol 6326)	New Orleans	1024 Whitney Building (Tel. Raymond 6811)
Chicago	(Freight) 704 Marquette Bldg. (Tel. Franklin 5490) (Passenger) 216 North Michigan Avenue	Norfolk	200-02 East Main Street
St. Louis	(Freight) 742 Paul Brown Bldg. (Tel. Central 3389) (Passenger) 411 North Seventh Street	San Francisco	665 Market Street
Pittsburgh	Oliver Building (Telephone Atlantic 1274)	Seattle	Pier 1, Alaskan Way
Memphis	Cotton Exchange Building (Tel. 8-1098)	Toronto	19 King Street, East
Brownsville	First Nat'l Bank Building (Tel. Walnut 4932)	Washington	743—14 Street, N. W.
		Corpus Christi	Municipal Docks
		Monterey, Mex.	Ave. Moreios 829

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Panama - Colombia - Ecuador - Peru - Chile

SAILINGS FROM NEW YORK

NOTE—The following schedule subject to changes and individual postponement, without notice.

SOUTHBOUND PORTS OF CALL	"Santa Clara" △	"Santa Maria" △	"Santa Rita" ◆ △	"Santa Lucia" △	"Santa Barbara" ⊡	"Santa Inez" ◆ △	"Santa Clara" ⊡	"Santa Maria" ⊡	"Santa Rita" ◆ ⊡	"Santa Lucia" ⊡	"Santa Barbara" ⊡	"Santa Inez" ◆ ⊡
Lve. NEW YORK (See Note ▲)	April 1	April 8	April 15	April 22	April 28	May 6	May 12	May 19	May 26	June 2	June 9	June 16
Arr. Cristobal, Canal Zone	April 6	April 14	April 22	April 27	May 4	May 13	May 17	May 25	June 2	June 7	June 15	June 23
Lve. Balboa, "	April 7	April 14	April 22	April 28	May 4	May 13	May 18	May 25	June 3	June 8	June 15	June 24
Arr. Buenaventura, Colombia	April 8	April 16	April 24	April 29	May 6	May 15	May 19	May 27	June 5	June 9	June 17	June 26
Arr. Guayaquil, Ecuador	April 10	April 18	.....	May 1	May 8	.....	May 21	May 29	.....	June 11	June 19	.....
Arr. Talara, Peru	April 11	.....	April 26	May 2	.....	May 17	May 22	.....	June 7	June 12	.....	June 28
Arr. Paita, "	.....	.....	April 27	.....	.....	May 18	.....	.....	June 8	.....	.....	June 29
Arr. Salaverry, "	April 12	.....	April 28	May 3	.....	May 19	May 23	.....	June 9	June 13	.....	June 30
Arr. Callao, Lima, "	April 13	April 20	April 29	May 4	May 10	May 20	May 24	May 31	June 10	June 14	June 21	July 1
Lve. Callao, Lima, "	April 14	April 21	April 29	May 5	May 11	May 21	May 25	June 1	June 10	June 15	June 22	July 1
Arr. Mollendo, "	April 15	April 22	.....	May 6	May 12	.....	May 26	June 2	.....	June 16	June 23	.....
Arr. Arica, Chile	April 16	April 23	May 1	May 7	May 13	May 22	May 27	June 3	June 12	June 17	June 24	July 3
Arr. Tocopilla, "	.....	.....	May 2	.....	.....	May 23	.....	.....	June 13	.....	.....	July 4
Arr. Antofagasta, "	April 17	April 24	May 3	May 8	May 14	May 24	May 28	June 4	June 14	June 18	June 25	July 5
Arr. Chanaral, "	April 18	.....	May 4	May 9	.....	May 25	May 29	.....	June 15	June 19	.....	July 6
Arr. Coquimbo, "	.....	April 25	.....	.....	May 15	.....	.....	June 5	.....	.....	June 26	.....
Arr. Valparaiso, "	April 19	April 26	.....	May 10	May 16	.....	May 30	June 6	.....	June 20	June 27	.....

◆ Freighters carrying 12 passengers only.
Note ▲—All sailings are from Pier 8, foot of Montague Street, Brooklyn, N.Y.
⊡ Sails Friday at 5 00 p.m.
△ Sails Saturday at 12 00 noon.
When "Daylight Saving" time is effective, steamers will sail from New York on "Daylight Saving" time.

SAILINGS TO NEW YORK

NORTHBOUND PORTS OF CALL	"Santa Rita" ◆	"Santa Lucia"	"Santa Barbara"	"Santa Inez" ◆	"Santa Clara"	"Santa Maria"	"Santa Rita" ◆	"Santa Lucia"	"Santa Barbara"	"Santa Inez" ◆	"Santa Clara"	"Santa Maria"
Lve. VALPARAISO, CHILE	.....	April 1	April 7	.....	April 22	April 28	.....	May 13	May 19	.....	June 3	June 9
Lve. Chanaral, "	Mar. 23	April 2	.....	April 13	April 23	.....	May 4	May 14	.....	May 25	June 4	.....
Lve. Antofagasta, "	.....	April 3	April 9	.....	April 24	April 30	.....	May 15	May 21	.....	June 5	June 11
Lve. Mollendo, Peru	Mar. 25	April 4	April 10	April 15	April 25	May 1	May 8	May 16	May 22	May 27	June 6	June 12
Arr Callao, Lima, "	Mar. 27	April 5	April 12	April 17	April 26	May 3	May 8	May 17	May 24	May 29	June 7	June 14
Lve. Callao, Lima, "	Mar. 27	April 6	April 12	April 17	April 27	May 3	May 8	May 18	May 24	May 29	June 8	June 14
Lve. Paita, "	Mar. 29	.....	.....	April 19	.....	.....	May 10	.....	.....	May 31	.....	.....
Lve. Talara, "	.....	April 7	.....	.....	April 28	.....	.....	May 19	.....	.....	June 9	.....
Lve. Guayaquil, Ecuador	Mar. 30	April 8	April 15	April 20	April 29	May 6	May 12	May 20	May 27	June 1	June 10	June 17
Lve. Manta-Bahia, "	.....	April 9	April 16	.....	April 30	May 7	.....	May 21	May 28	.....	June 11	June 18
Lve. Buenaventura, Colombia	April 2	April 10	April 17	April 23	May 1	May 8	May 14	May 22	May 29	June 4	June 12	June 19
Arr. Balboa, Canal Zone	April 3	April 12	April 19	April 24	May 3	May 10	May 15	May 24	May 31	June 5	June 14	June 21
Lve. Cristobal, "	April 4	April 12	April 19	April 25	May 3	May 10	May 16	May 24	May 31	June 6	June 14	June 21
Arr. Havana, Cuba	.....	April 15	.....	.....	May 6	.....	.....	May 27	.....	.....	June 17	.....
Arr. NEW YORK, *Pier 7, N.R.*	April 11	April 18	April 25	May 2	May 9	May 16	May 23	May 30	June 6	June 13	June 20	June 27

◆ Freighters carrying 12 passengers only.

PRINCIPAL GRACE LINE OFFICES

NEW YORK	10 Hanover Square 628 Fifth Avenue	CHICAGO	230 North Michigan Avenue
BOSTON	Little Building	SAN FRANCISCO	2 Pine Street
PITTSBURGH	Henry W. Oliver Building	LOS ANGELES	523 West Sixth Street
WASHINGTON	914 15th Street, N.W.	SEATTLE	408 White Building

1210

UNITED FRUIT COMPANY

STEAMSHIP AND RAILWAY SERVICE.

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NEW YORK and SOUTH AMERICA

CALLING AT
RIO DE JANEIRO, SANTOS (SAO PAULO), MONTEVIDEO, BUENOS AIRES

FURNESS, WITHY & CO., LTD.
GENERAL AGENTS
34 Whitehall Street, New York
BOwling Green 9—7800
565 Fifth Avenue, New York 1933
Wickersham 2—2972

Offices at all Principal Ports Throughout the World

UNITED FRUIT COMPANY
GREAT WHITE FLEET
STEAMSHIP SERVICE

GREAT WHITE FLEET SERVES THE AMERICAS

NEW ORLEANS-CUBA-CANAL ZONE-PANAMA-COSTA RICA-HONDURAS-GUATEMALA SERVICE
(16-day Cruise) 1939

From Julia Street Wharf, New Orleans, 11 a.m. every Saturday

Calls at Havana, Cuba; Cristobal, Canal Zone; Almirante, Panama (fortnightly); Port Limon, Costa Rica; Tela, Honduras (fortnightly) and Puerto Barrios, Guatemala (fortnightly), returning to New Orleans via Havana.

NEW ORLEANS-BRITISH HONDURAS-GUATEMALA-HONDURAS SERVICE (8-day Cruise)

From Julia Street Wharf, New Orleans, 10 a.m. every Wednesday

Calls at Puerto Barrios, Guatemala; Puerto Cortes, Honduras (fortnightly) and Tela, Honduras (fortnightly), returning direct to New Orleans. **NOTE:** Every sixth week steamers leave New Orleans on Tuesday and call at Belize, British Honduras, before proceeding to Honduras.

ADDITIONAL FREIGHT SERVICES

BOSTON, MASS., to Havana, Cuba (fortnightly).

NEW YORK to Banes and Preston, Cuba, Santiago and Cuban Outports via Havana and Santiago, Cuba; Jamaican Outports via Kingston, Jamaica, B. W. I., Belize, British Honduras, via Kingston, Jamaica; Port Limon, Costa Rica, Cristobal, Canal Zone, West Coast Ports of Central and South America via Cristobal, Canal Zone and Santa Marta, Colombia.

NEW ORLEANS direct to Santiago, Cuba, and Cuban Outports via Santiago; Kingston, Jamaica, B. W. I., and Jamaican Outports via Kingston; Bluefields, Nicaragua (weekly); Belize and Stann Creek, British Honduras; Puerto Barrios and Livingston, Guatemala; Cartagena and Puerto Colombia, Colombia (fortnightly); Puntarenas, Costa Rica; Corinto, Nicaragua; La Union, La Libertad, Acajutla, Salvador; Amapala, Honduras; Champerico, San Jose de Guatamala, Guatamala; Puerto Armuelles, Panama, if sufficient cargo offers (fortnightly); Cartagena, Puerto Colombia and Santa Marta; West Coast Ports of Central and South America via Cristobal (weekly).

ST. JOHN, N.B., CANADA, to Kingston, Jamaica, B. W. I., and Jamaican Outports fortnightly.

IMPORTANT NOTICE—Sailing dates, steamers and itineraries subject to change without notice. Time of departure and routes of ships should be confirmed through the Company's offices.

MAP

NORTHWESTERN
SOUTH AMERICA

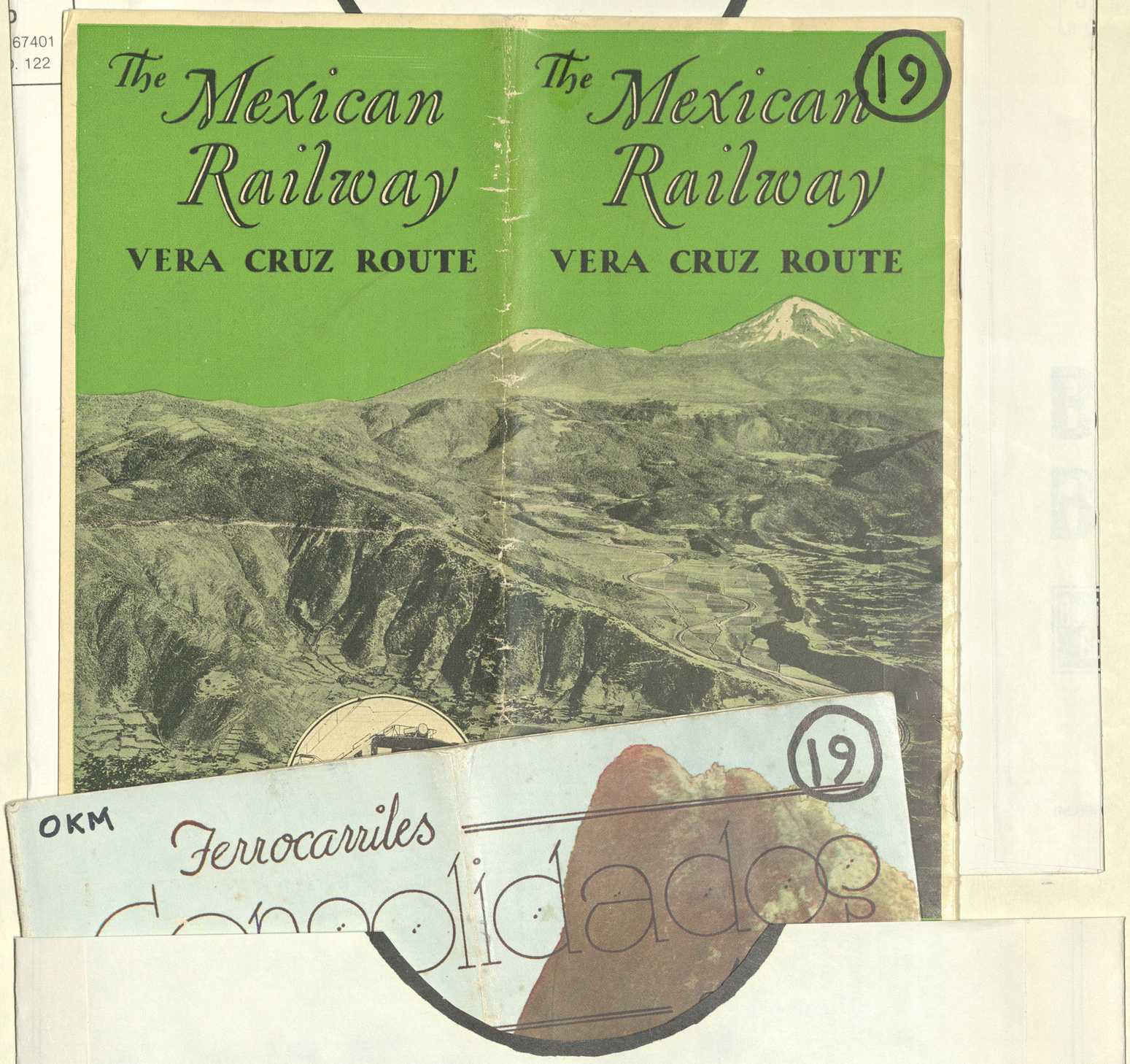
MAP

MEXICO
AND
CENTRAL AMERICA

HIGHEST RAILWAYS IN THE WORLD

RAILWAY	LOCATION	ALTITUDE
Peruvian Central	Morococha, Peru	15865
Antofagasta & Bolivia Railway Co	Punta Alto, Chile	15810
Bolivia Railways	Condor, Bolivia	15705
Peruvian Central	Galera, Peru	15685
Peruvian Southern	Crucero Alto, Peru	14688
Peruvian Southern	La Raya, Peru	14518
Arica - La Paz	General Lagos, Chile	13966
Guaqui - La Paz	El Alto, Bolivia	13471
Argentine State	La Cruces, Argentina	12000
Guayaquil & Quito	Urbina, Ecuador	11841
Denver & Rio Grande	Fremont Pass, USA	11330
Denver & Rio Grande	Marshall Pass, USA	10856
Chilean Transandino	La Cumbre, Chile	10466
Rio Grande & Southern	Lizard Head, USA	10248
Denver & Salt Lake	Rollins Pass, Colo	11671
F. C. A-B	Socompa, Bolivia	12062
F. C. G. B.	Chorrillos Pass, Arg.	14680
F. C. G. B.	Munano Station, Arg.	12916
F. C. C.	La Cima, Peru	15806
F. C. C.	Ticlio Station, Peru	15610

67401
. 122



TIMETABLES
[1948]
Ferrocarriles Consolidados de Cuba

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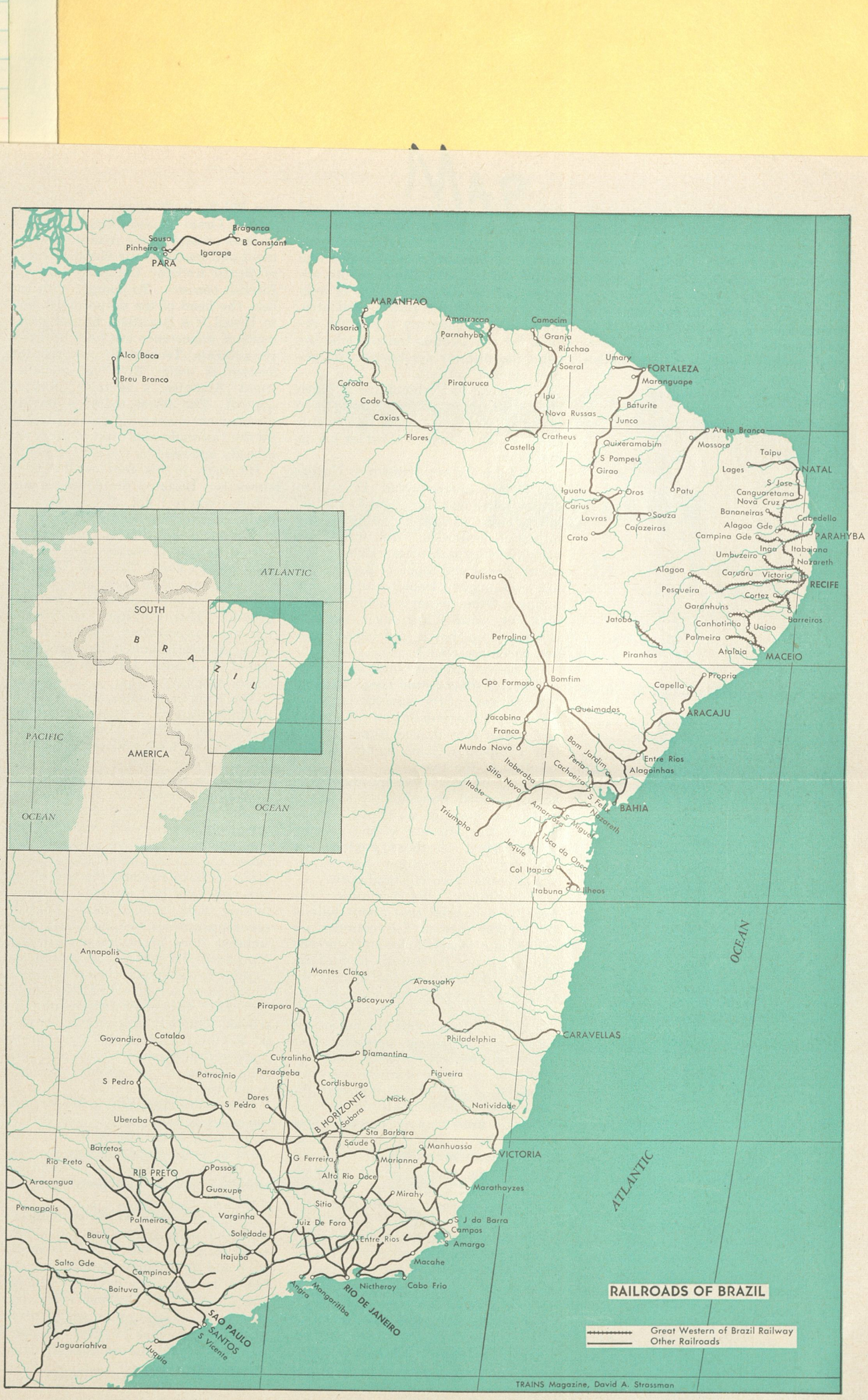

Great Western of Brazil 43

Chilean Transandino	La Cumbre, Chile	10466
Rio Grande & Southern	Lizard Head, USA	10248
Denver & Salt Lake	Rollins Pass, Colo	11671
F. C. A-B	Socompa, Bolivia	12062
F. C. G. B.	Chorrillos Pass, Arg.	14680
F. C. G. B.	Munano Station, Arg.	12916
F. C. C.	La Cima, Peru	15806
F. C. C.	Ticlio Station, Peru	15610

ATLANTIC OCEAN
CARIBBEAN SEA
Speightstown
Barbados U.K.
Bridgetown
Kingstown
St.Vincent
Bequia U.K.
WINDWARD ISLANDS
The Grenadines U.K.
Carriacou
Ronde
St.George's
Grenada U.K.
Grenville
Pt. Salines
Charlotteville
Tobago
Scarborough
PORT OF SPAIN
TRINIDAD AND TOBAGO
Dragon's Mouth
Galera Pt.
Sangre Grande
TRINIDAD
Rio Claro
San Fernando
Guayaguayare
Gulf of Paria
Serpent's Mouth
Punta Araguapiche
Boca Araguao
Mariusa
Boca Grande
Mabaruma
Hosoro
Wanaina
Shell Beach
Barima
Towakaima
Waini Point
Continental Shelf
Georgetown
Hackney
Marlborough
Charity
Hampton Court
Anna Regina
Suddie
Wakenaam
Spring Garden
Parika
Skeldon
Springlands
Rosignol
Mahaicony
New Amsterdam
Apoera
Epira
Orealla
Kalkuni
Mara
Takama
Iturupaina
Omai
Tamatumari
Mahdia
Kamaria Falls
Bartica
Mackenzie
Rockstone
Issano
Kangaruma
Mt. Roraima
Kukenaam
Mt. Kukenaam
Pakaraima Mts.
Kurupukari
Oriduik
Mountains
Merume Mts.
Kumu
Kamarang
Kamakusa
Kumureng
Peyuna Falls
Kamarang
Great Falls
Timbalada
Pakaraima
Mt. Roraima
Mapauka
Mt. Roraima
Cuyuni
Kuyuni

NORTHWESTERN SOUTH AMERICA

ATLAS PLATE 26 : FEBRUARY 1964

Compiled and Drawn in the Cartographic Division of the National Geographic Society *for* THE NATIONAL GEOGRAPHIC MAGAZINE

MELVILLE BELL GROSVENOR, EDITOR

RALPH E. McALEER, CHIEF CARTOGRAPHER

Chamberlin Trimetric Projection

SCALE 1:6,652,800 OR 105 MILES TO THE INCH

Pan American Highway System — Roads — Railroads — Places with Scheduled Air Service — Canals — Oil Fields — Oil Pipe Lines — Ruins — Glaciers — Intermittent Lake — Dry Salt Lake — Sand — Cold Currents — Warm Currents — Elevations in Feet — Soundings in Fathoms

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Scale 7.5 Miles to the Inch

Scale 10 Miles to the Inch

CALIFORNIA
ARIZONA
NEW MEXICO
SONORA
CHIHUAHUA
BAJA CALIFORNIA NORTE
BAJA CALIFORNIA SUR
COAHUILA
DURANGO
NUEVO LEON
TAMAULIPAS
SINALOA
NAYARIT
ZACATECAS
AGUASCALIENTES
JALISCO
COLIMA
MICHOACAN
GUANAJUATO
QUERETARO
SAN LUIS POTOSI
HIDALGO
TLAXCALA
PUEBLA
MORELOS
GUERRERO
OAXACA
VERACRUZ
TABASCO
CHIAPAS
YUCATAN
CAMPECHE
QUINTANA ROO
TEXAS
OKLAHOMA
LLANO ESTACADO
GULF OF CALIFORNIA
GULF OF MEXICO
PACIFIC OCEAN
CARIBBEAN SEA
Salton Sea
Imperial Valley
Colorado
Gila
Gila Bend Mts.
Phoenix
Yuma
Mexicali
Calexico
Tijuana
SAN DIEGO
Tecate
Ensenada
Rosarito
Presa Rodríguez
El Descanso
Guadalupe
El Sauzal
B. de Todos Santos
La Bufadora
Punta Santo Tomás
Punta San José
Cerro Álamo
Santo Tomás
El Álamo
Real del Castillo
La Bomba
Nayarit
Laguna Salada
Sierra de Juárez
Sierra Pinta
Sierra San Pedro Mártir
El Picacho del Diablo
Colonet
Bahía Colonet
Colonia Guerrero
San Telmo
San Felipe
Punta Estrella
San Martín
Cabo San Quintín
Bahía de San Quintín
San Quintín
Socorro
El Rosario
Punta Baja
Bahía del Rosario
Punta San Antonio
Punta San Carlos
Punta Prieta
Punta Blanca
Bahía Blanca
Santa Rosaliillita
Mesa de San Carlos
Cerro dos Picachos
Punta del Vapor
Punta del Norte
Roca Elefante
Mexico
I. de Adentro
I. de Afuera
Morro Sur
GUADALUPE ISLAND
STATUTE MILES
Isla San Benedicto
Cabo Middleton
Isla Roca Partida
Isla Socorro
REVILLAGIGEDO ISLANDS
Punta Mita
Bahía de Banderas
Puerto Vallarta
Manzanillo
Tecomán
Colima
Nevado de Colima
Volcán de Fuego
Ciudad Guzmán
Lago de Chapala
Guadalajara
Tepatitlán
Lagos de Moreno
León
Irapuato
Celaya
Salamanca
Querétaro
San Miguel de Allende
Dolores Hidalgo
San Luis Potosí
Matehuala
Real de Catorce
Zacatecas
Fresnillo
Jerez de García Salinas
Durango
Mazatlán
Culiacán
Los Mochis
Topolobampo
Guasave
Navolato
Ahome
Guamúchil
Sinaloa de Leyva
Guaymas
Empalme
Cabo Haro
Ciudad Obregón
Navojoa
Huatabampo
Puerto Peñasco
Bahía de San Jorge
Bahía de Adair
Bahía Sebastián Vizcaíno
Isla Cedros
Isla Natividad
Bahía Tortugas
Punta Eugenia
Laguna Ojo de Liebre
Desierto de Vizcaíno
Sierra Vizcaíno
Guerrero Negro
Bahía San Carlos
Villa Jesús María
El Arco
Bahía de San Rafael
Pta. San Gabriel
Punta Baja
Bahía de los Angeles
Canal de las Ballenas
Pta. de Las Ánimas
Tiburón
Ángel de la Guarda
Isla Cedros
Isla San Benito
Ranger Bank
Mejía
Cerro Guaymas
Valle de Guaymas
Hermosillo
Bahía Kino
San Esteban
Punta Baja
Torres
La Colorada
Gorguz
Zubiate
Villa Pesqueira
Álamos
Sahuaripa
Arivechi
Tecoripa
Soyopa
Tacupeto
Mulatos
Onavas
Suaqui Grande
La Misa
Ortiz
Yécora
Tonichi
Tosanáchic
Yepómera
Temósachic
Matachic
Madera
Gómez Farías
Babícora
Cruces
Namiquipa
Nombre de Dios
Chihuahua
Cuauhtémoc
Cusihuiriachic
Aldama
Aquiles Serdán
Julimes
Meoqui
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Rosales
Dr. Belisario Domínguez
Gran Morelos
General Trías
Ojinaga
Presidio
Coyame
Manuel Benavides
Boquillas
Chisos Mts.
Emory Peak
Big Bend National Park
Rio Grande
Rio Bravo del Norte
Boquillas del Carmen
Ocampo
Mapimí
Bolsón de Mapimí
Sierra Mojada
Esmeralda
Lag. de los Frailes
Lamadrid
Cuatrociénegas
Sacramento Mts.
Sierra del Carmen
Sierra del Burro
Sierra del Rosario
Sierra de la Fragua
Sierra de la Cuesta
Sierra de la Madera
Sierra de los Alamitos
Sierra de la Encantada
Sierra de Jimulco
Sierra de Parras
Sierra de Santa Rosa
Sierra de Hermanos
Sierra de Picachos
Sierra de Minas Viejas
Sierra de Catorce
Sierra de Guadalupe
Sierra de Zacatecas
Sierra de Pinos
Sierra de Morones
Sierra de Tlaltenango
Sierra de Morelos
Sierra de Tapalpa
Sierra de Manantlán
Sierra de Tecalitlán
Sierra de Coalcomán
Sierra de Tancítaro
Sierra de Chincua
Sierra de Angangueo
Sierra de Ajusco
Sierra de Zempoaltepec
Sierra de Juárez
Sierra de Tuxtla
Sierra de Chiapas
Sierra Madre de Chiapas
Sierra Madre del Sur
Sierra Madre Occidental
Sierra Madre Oriental
Sierra Madre de Oaxaca
Sierra Madre de Chiapas
Sierra de Tamaulipas
Sierra de Guatemala
Sierra de Agua Blanca
Sierra de Cacaluta
Sierra de Tres Vírgenes
Sierra de Tres Marías
Sierra de Tres Palos
Sierra de Tres Picos
Sierra de Tres Cruces
Sierra de Tres Lagunas
Sierra de Tres Ríos
Sierra de Tres Valles
Sierra de Tres Montes
Sierra de Tres Cerros
Sierra de Tres Puentes
Sierra de Tres Caminos
Sierra de Tres Hermanos
Sierra de Tres Hermanas
Sierra de Tres Reyes
Sierra de Tres Santos

MEXICO AND CENTRAL AMERICA

Produced by the Cartographic Division
National Geographic Society
GILBERT M. GROSVENOR, PRESIDENT
NATIONAL GEOGRAPHIC MAGAZINE
WILBUR E. GARRETT, EDITOR
RICHARD J. DARLEY, CHIEF CARTOGRAPHER
JOHN F. SHUPE, ASSOCIATE CHIEF CARTOGRAPHER

WASHINGTON DECEMBER 1980

Albers Conical Equal-Area Projection, Standard Parallels 11°20′ and 28°40′

SCALE 1:5,148,000
1 CENTIMETER = 51.5 KILOMETERS OR 1 INCH = 81.3 MILES

0 50 100 150 200 250 300 KILOMETERS
0 50 100 150 200 250 300 STATUTE MILES

Pan American Highway System — Other Roads — Railroads
Canals — Oil Pipelines — Oil Fields
Airports — Ruins — Intermittent Lakes — Dry Salt Lakes
Elevations, Depth Curves, and Soundings in Meters

NATIONAL PARKS OF MEXICO

Alejandro de Humboldt	1
Balneario de los Novillos	2
Benito Juárez	3
Bosencheve	4
Cañón del Río Blanco	5
Cerro de las Campanas	6
Cofre de Perote	7
Constitución de 1857	8
Cumbres de Majalca	9
Cumbres de Monterrey	10
Desierto de los Leones	11
El Chico	12
El Potosí	13
El Tepozteco	14
General Juan Álvarez	15
Gogorron	16
Insurgente José María Morelos y Pavón	17
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For complete map list write to the National Geographic Society, Washington, D. C. 20036.

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19

VISITOR'S GUIDE TO THE AZTEC WORLD

Produced by the Cartographic Division
National Geographic Society
GILBERT M. GROSVENOR, PRESIDENT
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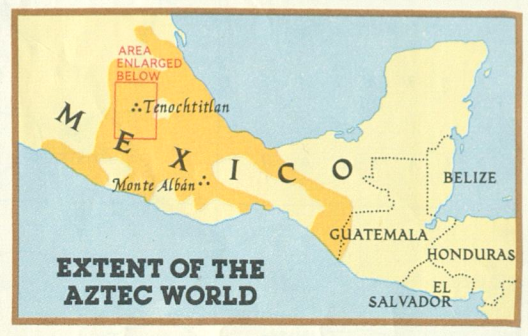
THEY CAME FROM AZTLAN, a place of myth and dreams situated, perhaps, somewhere in the west of Mexico. They came, the fierce Aztecs, wandering out of the wilderness with their cruel god Huitzilopochtli, feeder on human hearts, who gave them the name Mexica. Uncivilized they were, judged by the standards of other Nahuatl-speaking people—earlier arrivals in the Valley of Mexico who lived in city-states ruled by kings.

The Aztecs settled on Chapultepec—the "hill of the grasshopper"—in the 13th century. At first they were left alone by the people around them, but soon those neighbors grew to despise their fearsome ways and forced them out. The Aztecs moved to a barren expanse of lava, near where the University of Mexico stands today, where they subsisted on a diet of snakes and vermin.

There they remained for a generation as military vassals, first to the Culhuas of Culhuacan and later to the Tepanecs of Azcapotzalco. Seeking another home, they landed on a marshy island in Lake Texcoco at a place where they spied an eagle perched on a cactus. The sighting fulfilled an ancient prophecy, and the Aztecs adopted the eagle as the emblem of their new home—Tenochtitlan.

As mercenary allies of Azcapotzalco they launched into unremitting warfare against the other city-states, sharing with their overlords the booty from their conquests. In 1428 the Aztecs established their supremacy in the valley by crushing the Tepanecs. A three-city alliance with Texcoco and Tlacopan (today's Tacuba) brought Tenochtitlan more power and riches. As the Aztec Empire expanded, so did its artistic accomplishments, including massive stone sculpture and fine feather- and goldwork. By the 16th century they had brought most of present-day Mexico into a rich, tribute-paying empire that was at the peak of its flowering when Hernán Cortés, hungry for gold and glory, landed in Mexico in 1519. The end of empire came even faster than its rise: By August 13, 1521, the last Aztec ruler had surrendered.



EXTENT OF THE AZTEC WORLD

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VALLEY OF MEXICO

SEVEN THOUSAND FEET above sea level and walled on three sides by mountain ranges, the Valley of Mexico has provided a favorable environment for man since the Glacial epoch. Ice Age hunters stalked mammoths along the boggy margins of its lakes, now a fraction of their former extent. Later, hunters and gatherers developed agriculture and settled in the first villages. As populations grew and exploited the region's rich potential, city-states developed, drawing from many sources throughout Mesoamerica in the evolution of their cultural patterns. Eventually came the Aztec people, whose military genius amassed an empire and firmly established the valley as the heart and hub of the Mexican nation.

Transverse Mercator Projection
SCALE 1:500,000
1 CENTIMETER = 5 KILOMETERS OR 1 INCH = 7.9 MILES

KILOMETERS 0 15
STATUTE MILES 0 15

∴ *Archaeological Sites*
Points of Interest
Δ *Campgrounds*
National Parks
Lava
Lake Texcoco A.D. 1519
Roads
Railroads
Aqueducts
Ancient Causeways
Route of Cortés
Elevations in Meters

Selected place-name glyphs from an Aztec manuscript.

Based in the sacred capital of Tula, the powerful Toltec state rose and fell in central Mexico between the tenth and twelfth centuries. Toltec patterns of militarism, empire building, religious ceremonialism, and social organization set the standards for the Aztec civilization, which carried them forward to the high level encountered by Cortés and his conquistadores.

THE LAKES
A chain of connected lakes extended over 400 square miles in the Valley of Mexico in 1519. The Aztecs turned the varied waters into their greatest resource, used for agriculture, transport, and conquest. The old lake system (shaded putty) has all but disappeared as Mexico City gradually drained the shallow waters.

Mesoamerica's earliest urban center, Teotihuacan was the dominant power in Mexico from A.D. 100 until its destruction by northern tribes in 750. Huge pyramids and plazas survive. Its art, architecture, religion, and social structure touched every subsequent Mesoamerican civilization, including the Aztecs, who named it the "place where the gods are made."

The city-state of Texcoco flourished as the intellectual center of the Aztec triple alliance. It possessed an extensive library that did not survive the Spanish conquest. King Nezahualcoyotl, the poet-philosopher, conquered an area including Huexotla, whose fortresslike ruins are nearby. The remains of his hilltop gardens, sculptures, and massive aqueduct system at Texcotzingo show his impressive engineering skills and aesthetic appreciation.

Home of the rain god, this was the site of one of the most important Aztec rituals, the child sacrifice to bring rain. The ruins of a great stone courtyard with remnants of idols remain on the mountaintop once visited by kings and priests from all over the empire.

The gardens of Xochimilco are actually artificial islands made by piling layers of surface vegetation and bottom mud into rectangular strips anchored by stakes and trees. These fertile plots, called chinampas, serve both agriculture and land reclamation. Aztecs of Tenochtitlan enlarged their island and threaded it with waterways by means of the chinampa technique.

THE VOLCANOES
Like twin guardians, Popocatépetl and Iztaccíhuatl, "smoking mountain" and "white lady" of Aztec myth, overlook the Valley of Mexico and its city. In 1519 Spaniards in Cortés's vanguard attempted to scale "Popo" but were driven back by smoke, sparks, and burning cinders. Francisco de Montaño succeeded two years later on a mission to collect sulfur for gunpowder from the steaming crater.

An Aztec-dominated outpost in the 15th century, Calixtlahuaca may have been settled as early as 1700 B.C. The site contains a tiered circular altar dedicated to the wind god near a plaza formed by platforms and buildings, one of which was probably an academy that prepared young men for priestly and military careers.

"Place of the divine walls," the large fortress city was occupied as early as the seventh century and conquered by the Aztecs in 1476. Restoration of the highland site began in 1974.

High on a hillside, the military temple complex at Malinalco was carved from solid rock. Stone eagles and a jaguar grace the massive inner chamber in the main building. The entrance is the mouth of a serpent with a stone carpet carved as a forked serpent tongue.

Legendary birthplace of the ruler-priest Quetzalcoatl, Tepoztlan is also the hillside setting of the Tepozteco pyramid, a shrine to Tepoztecatl, one of the most important of the gods of the sacred liquor, pulque. In early September a play dramatizes Tepoztecatl's reasons for abandoning the Aztec gods to become a Christian.

Once a major pilgrimage site to the Aztec god of the caves, Chalma now attracts hundreds each Sunday. Wearing flower wreaths, they dance in homage to the Roman Catholics' Our Lord of Chalma, represented by a life-size crucifix.

The personal encomienda, or fiefdom, of Cortés, Cuernavaca still maintains his palace on the main plaza, one of the oldest colonial buildings in Mexico. The restored structure now houses the Morelos Regional Museum, with its centerpiece a Diego Rivera mural, "The Conquest of Mexico."

Four-tiered circular pyramid at Cuicuilco, first major ceremonial structure in the Valley of Mexico, and extensive burial sites at Copilco date from before the eruption of Xitle volcano some 2,000 years ago. Lava buried both sites.

Aztec ceremonial center built between 1200 and 1500 at Cuauhnahuac (today's Cuernavaca) was covered by earth and vegetation until the Mexican Revolution in the early 1900s, when cannon fired from the top loosened the debris.

This large fortified site contains pyramids, ball courts, shrines, artful stone carvings of Quetzalcoatl—the "feathered serpent"—and calendrical hieroglyphs. Considered a cultural crossroads, the site bears the imprint of Teotihuacan as well as influences from the Toltecs and Maya and the later Zapotecs and Mixtecs.

A setting of natural springs and lush land is the site of the botanical gardens of Moctezuma I. Here he collected tropical species that could be cultivated and augmented the collection with carved stones.

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MEXICO CITY

FROM INAUSPICIOUS beginnings in the 14th century as an island settlement in Lake Texcoco, the city of Tenochtitlan became the seat of the Aztec Empire. Its huge painted temples, its canals and causeways, its palaces and markets, and the orderliness and cleanliness of its people so impressed Cortés that he compared Tenochtitlan favorably with the great cities of Spain.

With just 400 Spanish troops, but more than 100,000 Indian allies—some of whom thought him the reincarnation of a former ruler-priest—Cortés conquered the city. With the stones from its monuments, the Spanish laid the foundations of the capital of modern Mexico, a sprawling, teeming metropolis that is expected to become, by this century's end, the world's most populous city.

Transverse Mercator Projection

SCALE 1:50,000

1 KILOMETER = 2 CENTIMETERS OR 1 MILE = 1.27 INCHES

KILOMETERS 0 1.5

STATUTE MILES 0 1.5

- Points of Interest
- Prominent Points of Interest
- Public Buildings
- Statues, Monuments, Fountains
- Shopping Areas
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Elevations in Meters

Selected place-name glyphs from an Aztec manuscript.

Information on nomenclature and related map information courtesy Coordinación General de los Servicios Nationales de Estadística, Geografía e Informatica SSP of Mexico.

Small pyramid with a restored shrine to Huitzilopochtli, chief deity of the Aztecs, is the most complete Aztec temple in existence. A companion shrine, to Tlaloc, remains in ruins beside it.

A wall formed by dozens of serpents surrounds three sides of a pyramid, the last of six superimposed structures begun by Chichimec settlers between A.D. 1064 and 1116 and last renovated by Aztec builders in 1507. The best example of Aztec-style architecture, the temple is the basis for models of the Great Temple of Tenochtitlan.

TENAYUCA

THE CAUSEWAYS

Causeways built of stone, shown here as yellow bands, linked Tenochtitlan with the shores of Lake Texcoco. Defended by massive drawbridges, the causeways also helped control flooding. North, west, and south from the island ran major roadways to Tepeyac, today's Guadalupe; to Tlacopan, now Tacuba, and to Iztapalapa and Coyoacan. An aqueduct from Chapultepec brought fresh springwater into the teeming city.

The charred stump of an ancient tree is said to be the remains of the one under which Cortés sat and wept in the early morning of July 1, 1520, as his badly mauled troops fled Tenochtitlan in disarray after an Aztec uprising.

"Hill of the grasshopper," Chapultepec was held sacred by the Aztecs. Successive rulers carved their images in solid rock at the foot of the hill. A stone-lined cavity near the figures is known as the Bath of Moctezuma. Today the park is the site of several museums, including the National Museum of Anthropology.

CHAPULTEPEC

Modern government skyscrapers and office buildings and partially restored colonial and pre-Columbian ruins symbolize the blend of cultures in today's Mexico. Tlatelolco, a huge market center with temples rivaling those of Tenochtitlan, once stood on this site. Assimilated by Tenochtitlan in 1473, Tlatelolco was headquarters of the pochteca, a class of merchant travelers.

TLATELOLCO

Now a park with sculpture and towering trees, the Alameda occupies the site where the Spanish burned heretics during the Inquisition. In Aztec times it was a marketplace.

Mexico's holiest Roman Catholic shrine, the new Basilica of Our Lady of Guadalupe replaces the colonial building that was sinking into the subsiding soil of the old Texcoco lake bed. On a hill behind the basilica, the Virgin Mary is said to have appeared before the young Indian Juan Diego in colonial times. On this site stood a shrine to Tonantzin, called the mother of Aztec gods. December 12, the Day of Guadalupe, brings thousands of pilgrims to the area, some reviving Aztec costume and dance.

TENOCHTITLAN

GREAT TEMPLE OF TENOCHTITLAN

Its "great size and magnificence no tongue could describe," said Cortés of the sacred precinct of Tenochtitlan. Later his men destroyed its upper levels. Excavation of the temple—hidden for nearly four centuries under downtown Mexico City—began in earnest in 1978. The first item recovered was a huge stone disk carved to represent a dismembered Coyolxauhqui, sister and enemy of the Aztec tribal god, Huitzilopochtli. Archaeologists then removed a block of city street to unearth temple walls, thousands of artifacts, remains of human sacrifices, and the twin sanctuaries of Huitzilopochtli and Tlaloc, the rain god.

Aztec foundations support the colonial buildings around the main square, or Zócalo. Mexico City's cathedral, built on the Aztecs' sacred precinct, contains vestiges of Aztec-carved stones. The famous Stone of the Fifth Sun, popularly known as the calendar stone, was found in its churchyard in 1790. The National Palace, on the site of Moctezuma's palace, displays Diego Rivera murals that depict the Aztec origins of the Mexican nation. The National Pawnshop covers the palace of Axayacatl, where Cortés and his allies were besieged in 1520.

HEART OF THE CITY

Subway excavations have uncovered previously inaccessible treasures in the heart of old Tenochtitlan. (The ancient island settlement is shown in yellow and surrounded by a putty tint that indicates the Texcoco lake bed as it existed in 1519.) Most notable of the finds is the circular pyramid to the wind god, left in place at the Pino Suárez station. Other downtown reminders include a monumental stone serpent's head, probably taken from the sacred precinct. It now adorns the Museum of Mexico City. Cortés is buried in the Church of Jesús Nazareno.

The "hill of the star," capped by a pyramid and overlooking all of Tenochtitlan, was the scene of the most important ritual in all Aztec Mexico—the New Fire Ceremony. Once every 52 years, as the stars of the Pleiades passed through a zenith, a new Aztec century began. Priests ignited kindling on the chest of a sacrificial victim. A successfully drawn fire meant the continued existence of the world. Runners carried the new fire to temples and hearths throughout the countryside.

A causeway linking Tenochtitlan with this city ruled by Cuitlahuac, brother and successor to Moctezuma II, was the route of Cortés and his men on their fateful first entrance into Tenochtitlan, November 8, 1519.

Cortés established the first government of New Spain here, while Indian workers finished razing the Aztec capital of Tenochtitlan to lay the foundations of Mexico City. The quiet, tree-shaded suburb is the home of many writers and artists.

COYOACAN

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Mount Orizaba—Snow Crowned and Majestic

The Rail Trip of a Thousand Wonders

From Vera Cruz to Mexico City—From Tropic to Temperate Zone Climate at Elevation of 7350 Feet

SO MANY scenic marvels of such wide variety come within the range of the traveller's vision between Vera Cruz and Mexico City on the line of the Mexican Railway, that no visit to the Republic is complete unless this daylight wonder trip is included.

The full scope of natural splendour—snow-capped mountains, tremendous gorges, towering cliffs, broad, fertile mesas, turbulent streams and tumbling waterfalls—all are included in the panorama that unfolds its fascinating scenes throughout the 264 miles of daylight travel.

Vera Cruz, so called from the fact that Cortés landed there on Good Friday, 1519, naming the place "La villa rica de la Vera Cruz" (The rich town of the Holy Cross), the tidewater terminal of the Mexican Railway, is the oldest and most important seaport on the Mexican Gulf Coast. It has many attractions for the visitor, not only in the city but nearby. A short distance from the harbour, easily reached by boat, is the famous Castle of San Juan de Ulua, the cornerstone of which was laid in 1528 on the spot where Juan de Grijalva first landed ten years before. From here a magnificent view of the harbour and the surrounding country is obtained. Large warehouses and wharves with modern equipment for the prompt loading and discharge of cargo are found here. Good hotels, sea bathing and other delightful features make Vera Cruz popular for week-end excursions from Mexico City. The Terminal Hotel in the railway station is a favoured stopping place.

On leaving Vera Cruz the up-to-date trains of the Mexican Railway, with their commodious saloon-observation cars, travel smoothly over the firm, highly maintained roadbed. At the beginning of the journey the traveller is carried through lowland tropical country, passing at intervals fields of tobacco and sugar cane, as well as banana plantations.

The Descent to the Tropics

In these first pages, the rail trip ascending from the tropical lowlands of Vera Cruz to the mountain heights of Mexico City is described in detail. But the prospective traveller should not overlook the fact that the reverse trip is equally fascinating. Descending from Mexico City to Vera Cruz, the scene takes on an entirely different aspect than on the ascent. Great mountains, deep gorges, seen under varying light conditions and from new angles, make the descent an entirely new trip. For this reason, travellers often take the daylight trip in both directions, so as to enjoy the "Rail Trip of a Thousand Wonders" to the fullest extent.

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The people of Cordoba are proud of their Cathedral and Plaza

At Paso del Macho the oil burning locomotive gives way to one operated by electricity, for we are approaching the giant mountains which have been in sight all the way from the coast, and to reach Mexico City, two hundred and sixteen miles away, these mountains must be scaled.

A few miles beyond Paso del Macho we cross the San Alejo Bridge, 318 feet long. At Chiquihuite siding there is another bridge 220 feet long, and just before we reach Atoyac there is a bridge spanning the Atoyac River. Between the two latter bridges, and immediately between Tunnels 1 and 2 are the beautiful Falls of Atoyac. Soon, Potrero, with its important sugar mills, is passed, and within half an hour we arrive at Córdoba, 2,713 feet above sea level.

Córdoba, founded in 1618, by order of the Spanish Viceroy Diego Fernandez de Córdoba, is the center of a rich coffee growing region. Tobacco and pineapple plantations, banana and mango groves are also found in the immediate vicinity.

At Fortín, the next stop, baskets of tropical flowers and fruits may be bought from the many vendors who come to meet the train. From here the railroad turns sharply to the right and begins the journey through Metlac Ravine. On the opposite side of this ravine, in the depths of which a tropical river churns its way, can be seen another set of rails, on a terrace cut from the side of a precipice. The line passes through five short tunnels before it reaches the higher level and turns the flank of the hill. The train then glides over the Metlac Bridge, a very skillful piece of engineering work 350 feet long, built upon a curve of 325 feet radius, on a 3 percent grade, 92 feet above the river. Eight cast iron and masonry enclosed pillars support it. As the train comes up the flank of the opposite mountain the ravine widens and exposes its tropical charms to the traveller.

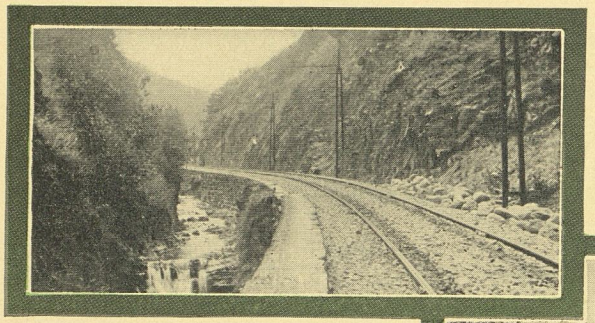
Magnificent forest trees, palms of many kinds, and patches of luxuriant tropical jungle can be seen, and sometimes a vale snuggled between sheltering hills. The general plan when building the line was to curve round the mountains rather than to drive long tunnels through them, and this is well seen from the number of short tunnels through which the train passes after leaving Metlac Bridge. From the last of these tunnels the train emerges upon an extensive table land, whence the eye looks upon broad valleys, billowy mountain ranges, and many straw-thatched native huts. Passing Sumidero the train soon reaches Orizaba.

Orizaba occupies the site of an Indian village which existed centuries before the Spaniards came. History records that the Aztecs conquered it in 1547 and that they named it Ahuaialixapan, (Joyful Waters) because of the many streams which burst from the verdure covered mountain sides and dash down the vale to lower levels. One of these gurgling streams, the Orizaba, plunges through a rocky ravine in the town and adds charm to it. Its power was utilized by the Spaniards as early as 1553, when they established a flour mill—perhaps the first one erected in America. Orizaba received its charter in 1774. Now the town is an important manufacturing center having large cotton and jute mills, as well as famous breweries. Several hundred feet below the town, reached by a funicular railway, is the Valley of Tuxpango where the waterfall has been harnessed to supply electric power. The generating plant there is the source from which the Mexican Railway draws its current for the operation of the electrified section of the line over the mountains.

Many tourists like to stop over at Córdoba or Orizaba, either to enjoy the quaintness of these

(*Continued on Page 7*)

VERA CRUZ ROUTE

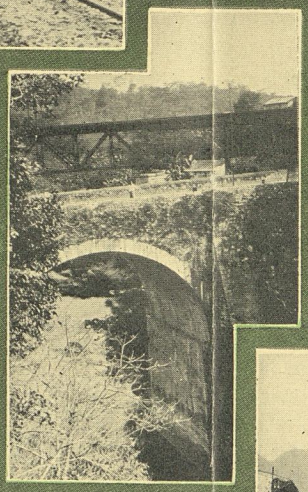


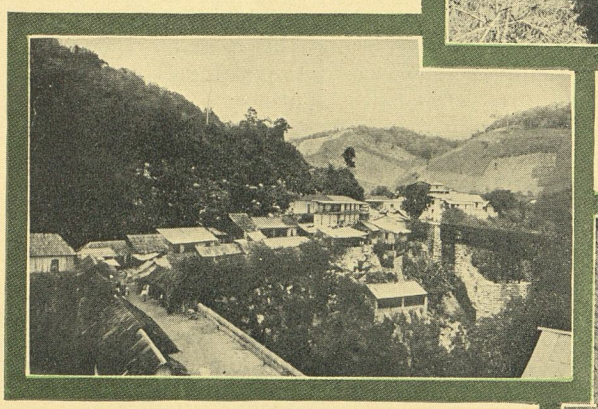
Hugo Brehme

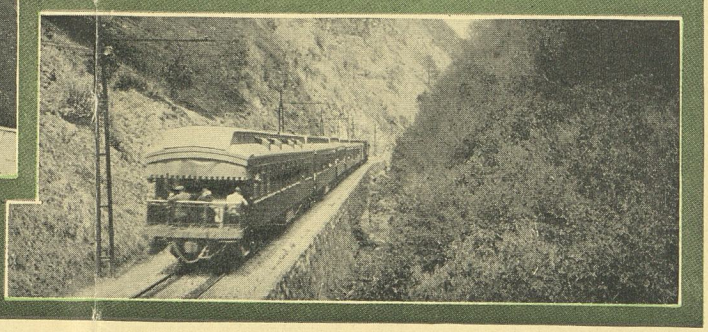
The rail journey between Vera Cruz and Mexico City is a continuous panorama of exciting interest. Superb peaks, brawling streams, gracefully arched bridges, picturesque villages and at every stop the crowds of friendly and interesting people make it a unique experience.

Electrification

The mountain section of the Mexican Railway between Esperanza and Paso del Macho is operated by electricity. Thomas A. Edison described the movement of electric trains: "No grinding, no jerking, no puffing, no disturbed slumbers,—just a keen sense of moving swiftly, of being propelled by a power vastly in excess of requirements—you ride with ease, you are at ease—it is the very last word in transportation."







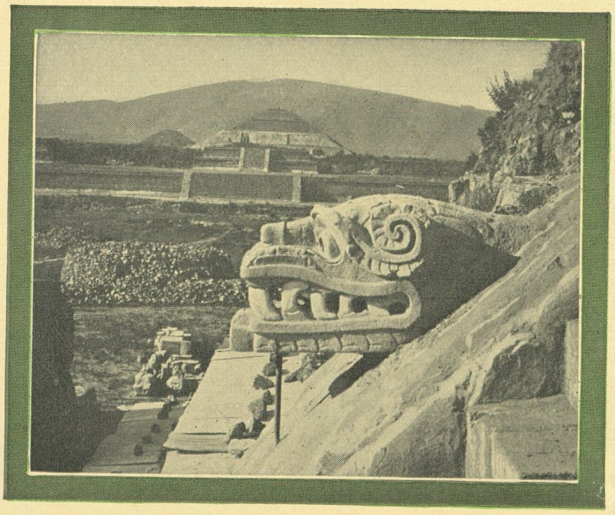
*"At every turn fresh beauties reveal themselves; hill is piled upon hill, vales merge and lose themselves in far-spreading valleys. * * * Roaring waterfalls burst from hidden gorges or clefts in the mountains, and tear away like mad things in their search for lower levels. Finally, when the cars creep and skirl along one of the Maltrata cumbres, and edge around a sheer precipice whence the dilated eye dominates a thousand square miles of mountain ridge and tropical valley, the scenery attains its greatest achievement; the experience is akin to that which the traveller feels as he rounds Sensation Rock on the Kandy (Island of Ceylon) Railway, or when he stands on a commanding spur of the Matterhorn and gazes with speechless admiration at the wonderful panorama spread out before him."*—From "Terry's Guide to Mexico."

(Continued from Page 4)

semitropical towns, or else to avoid the sudden transition from sea level to the higher altitudes.

Leaving Orizaba and the neighbouring industrial centers of Rio Blanco, Nogales and Santa Rosa the train crosses the Encinal Valley and threads the Infiernillo Canyon to arrive at Maltrata, more than fifteen hundred feet higher up. Conifers and mountain scrub oaks of the temperate zone have taken the place of banana, coffee and cocoanut groves through which our train has been passing.

From Maltrata the train zig-zags north, south, east and west up the hills. Sitting on the observation platform at the rear of the train we can trace the road below as it doubles and twists and loops its way downwards among the valleys; at times as many as six sets of rails being visible. Finally we arrive at Alta Luz, from where there is an awe inspiring view over the plains below. It is like the view from an airplane, the village of Maltrata looking for all the world like a checkerboard more than two thousand feet below. Leaving Alta Luz we soon pass over Wimmer Bridge, 90 feet long, built over a chasm from the ridge of which there is another magnificent panorama. Boca del Monte, 7,924 feet above sea level, on the eastern edge of the great Central Plateau is gained almost immediately, and the steepest part of the climb is over—more than five thousand feet in less than forty-two miles!



The "Sacred Serpent" is much in evidence at "La Cuidadela"

At Esperanza, a few miles further on, the traveller obtains an expansive panoramic view of the giant snow-capped Citlaltepetl, often known as the Peak of Orizaba. This giant mountain, shaped like a great ant-hill, is the second highest peak on the North American Continent, being topped only by Mt. McKinley in Alaska. At this station—Esperanza—time is allowed for the traveller, who seeks a novel variation in his diet, to lunch at the station restaurant, where, if he has not already done so, he may taste the national dishes. The electric locomotive here is replaced by an oil burner, for, although the line still ascends till it reaches the summit, 8,320 feet at Acocotla, the grades are easier.

From Esperanza the train traverses the Central Plateau. Tropical vegetation has been left behind and fields of corn, wheat, magueyes are seen on either hand. The maguey plant which after a short distance is to be seen on every side is known as the Century plant or American aloe or pulque plant. It is from this plant that the famous native drink—pulque—is obtained.

Apizaco is the junction point for Puebla less than thirty miles away. Picturesque little villages dot the scene and there are occasional glimpses of the workers in the fields. At Ometusco a line branches off to Pachuca which is the center of one of the largest and richest silver mining districts in the world. While traversing this plateau the great snow-capped volcanoes of Popocatepetl and Ixtaccihuatl are visible to the south.

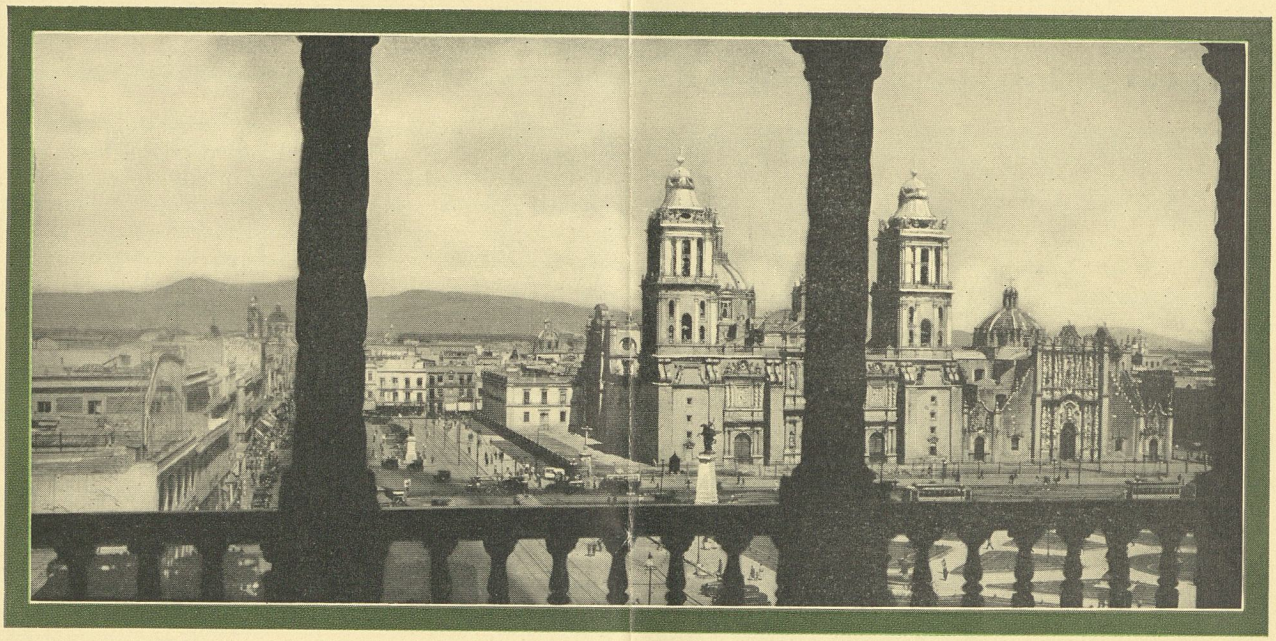
As the train approaches Teotihuacán, the Pyramids of the Sun and of the Moon and the Temple of Quetzalcoatl can be seen. These monumental remains of the Toltecs and Aztecs are strange and fascinating and their history is still largely shrouded in mystery. Teotihuacán, more fully described elsewhere herein as a nearby point of tourist interest, is a popular trip of one hour from the City of Mexico by trains of the Mexican Railway. Round trip tickets at special fares are on sale every day.

Shortly before reaching our destination we pass the town of *Guadalupe Hidalgo, better known as 'La Villa'. Here is the famous Basilica of Our Lady of Guadalupe, built to commemorate the appearance of the Virgin to Juan Diego in 1531.

And so we arrive at Mexico City (*Buenavista Station*), one of the queen cities of the American Continent.

**New name, Colonia Gustavo A. Madero.*

Vera Cruz–Mexico City–Standard Gauge Short Line



©Publishers' Photo Service

Across the Zocalo, the Cathedral in Mexico City. It is the largest in the western world, and noted for its impressive beauty

Mexico City and Nearby Points of Interest

THE CATHEDRAL, consecrated as The Church of the Asunción de María Santísima, is said to be the largest church building on the Continent. It is a gigantic structure of basalt and gray sandstone with very thick walls, occupying the entire north side of the great Plaza de la Constitución, commonly called the Zócalo. The twin towers rise 203 feet above the atrium. The cornerstone of the present building was laid in 1573, but it was not until 1667 that this building was completed. The towers were not finished until 1791. The two most interesting altars are those "Del Perdon" seen on entering by the south door, and "Los Reyes" immediately behind the High Altar, both done in the Churrigueresque style. The Capilla de los Santos Reyes (the Chapel of the Holy Kings) is a replica of a chapel in the Cathedral at Sevilla where some of the Spanish Kings are buried, and although begun in 1718 it was not entirely completed until 1837.

The Sagrario Metropolitano, though joined to the Cathedral, is a distinct church in itself. The present building dates from the middle of the Eighteenth Century. It is one of the three important examples of Churrigueresque church exteriors now in existence in the Capital. It is remarkable for its two elaborately and intricately decorated facades, similar in design and of equal value. The interior is nobly proportioned.

The National Museum, a short distance to the east of the main entrance to the Cathedral, and adjoining the National Palace, houses a most interesting collection, and to one interested in the past and present Mexican history it is a treasure house. The famous Aztec Calendar Stone is to be seen here, as well as a great variety of idols and household gods found in various parts of the Republic. Also, there is a fine collection of pictures illustrating some of the best known of the ruined

ALL-EXPENSE RAIL-WATER CIRCLE TOUR FARES
From New York and New Orleans to Mexico City via Vera Cruz. Also from inland points direct or via New York or New Orleans. See page 41.

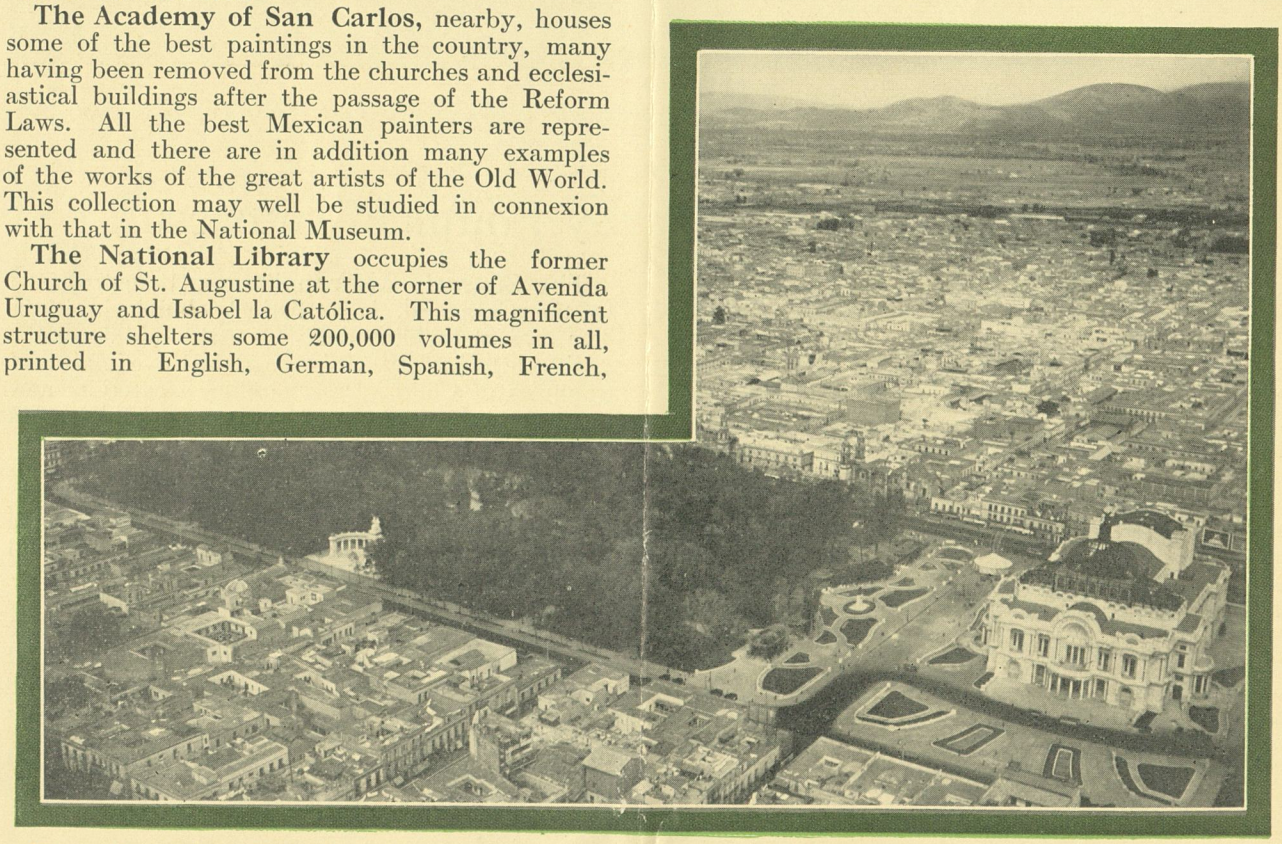
cities of Mexico, and an unusually interesting exhibit of regional costumes. The Museum is very rich in archeological exhibits, and the visitor will be able to gain a more comprehensive understanding of Mexico's remarkable past through a few hours spent in this institution.

The National Palace, fronting on the Zócalo and near the Cathedral, is a massive structure of two stories of stone and concrete with a third of the pink tezontle, of which many of the oldest buildings are constructed. Above its central doorway hangs the Liberty Bell of the little parish church at Dolores Hidalgo, on which the patriot priest, Miguel Hidalgo, sounded the call to arms of his faithful people who, under his leadership wrested Mexico's independence from Spain in the year 1810. Cards of admission can be obtained free.

The Academy of San Carlos, nearby, houses some of the best paintings in the country, many having been removed from the churches and ecclesiastical buildings after the passage of the Reform Laws. All the best Mexican painters are represented and there are in addition many examples of the works of the great artists of the Old World. This collection may well be studied in connexion with that in the National Museum.

The National Library occupies the former Church of St. Augustine at the corner of Avenida Uruguay and Isabel la Católica. This magnificent structure shelters some 200,000 volumes in all, printed in English, German, Spanish, French, Italian and Latin. The Library was established by Juarez in 1867 with the books taken from the University, the Cathedral and many other ecclesiastical sources.

Chapultepec Castle, is situated on an eminence about 200 feet high, a short distance from the center of the city, and is surrounded by a very lovely public park, described as one of the most beautiful on the Western Hemisphere. Here one may see many fine old ahuehuete trees, a large artificial lake, and botanical and zoological gardens. The Castle itself was begun in 1783, but now bears little resemblance to the original structure, restorations and changes having been effected by successive governments. It is now an official residence of the President of the Republic.



This aerial view shows Mexico City's Alameda with the notable Juarez Memorial, and the Palace of Fine Arts with its marvelous gardens at the right

Vera Cruz—Mexico City—Standard Gauge Short Line

Xochimilco, often called the Venice of Mexico, is about fifteen miles south of the city. Originally the place was an open lake, but gradually as the Indians made for themselves long rafts of interlacing twigs which they covered with earth, and on which they often erected their dwellings, pushing them about the lake, the place took on the appearance of a Venice. The rafts have since become permanent tracts of land, surrounded by the canals, and on which tall trees grow in abundance, and today flowers and vegetables for the use of the city are grown here in great quantities. It is a favorite picnic center, and the scene presented on Sundays and holidays with many native canoes decorated with flowers, variegated foliage and fruits gliding over the still waters, is a very gay one.

***San Angel** is a popular residential suburb with many fine modern homes, eight miles southwest of the city. Originally an Indian suburb of Coyoacan, it derives its present name from the Carmelite Monastery that was begun here in 1615 and of which the Church and some other portions still remain. The Church has three magnificent tiled domes, bright with many colours, and it is a favourite subject with the painter. The famous San Angel Inn is a very attractive center for luncheon parties and for those seeking the quiet of the countryside, yet within convenient distance from the city it is an ideal spot at which to spend a few days.

El Desierto de los Leones, The Desert of the Lions, is a charming pleasure spot about ten miles from the city, reached by an excellent motor highway which traverses a beautiful scenic area. This old Carmelite Monastery, built in 1606 and now largely fallen to ruin, is surrounded by a superb forest, through which run many charming footpaths. The scenery from the monastery is surpassingly beautiful. Refreshment stalls and booths, picnic tables, and gay crowds on Sundays and holidays make this a most interesting and pleasant place to visit because of the brilliance of life and colour to be seen, as well as for the interest aroused by the crumbling old structures that now are being restored by the Government.

The Church and Convent of San Augustín de Acolman can be reached by motor from the city or from the Pyramids of San Juan Teotihuacán. This structure was built in 1539, and is one of the oldest extant of those built by the Spanish immediately following the Conquest.

**New name, Villa Obregon.*

© Hugo Brehme

The National Library is a treasure-house for students

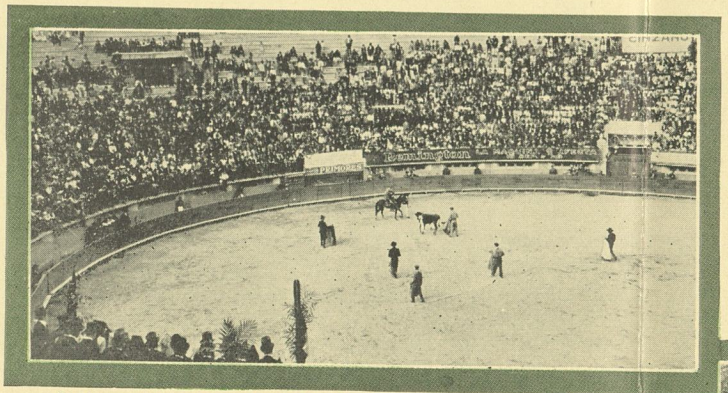
© Hugo Brehme

Chapultepec Palace and Park are a sightseers' paradise

© Publishers' Photo Service

The "Floating Gardens" at Xochimilco are quaint and colourful

MEXICAN RAILWAY



By Burton Holmes from Ewing Galloway

The Bull Fight, heritage from Old Spain is enjoyed by all

Ewing Galloway

Mexico City, like all metropolitan centers, has its traffic problems

A fountain in The Alameda, one of the pleasantest of scores of beautiful parks in Mexico City

Publishers' Photo Service

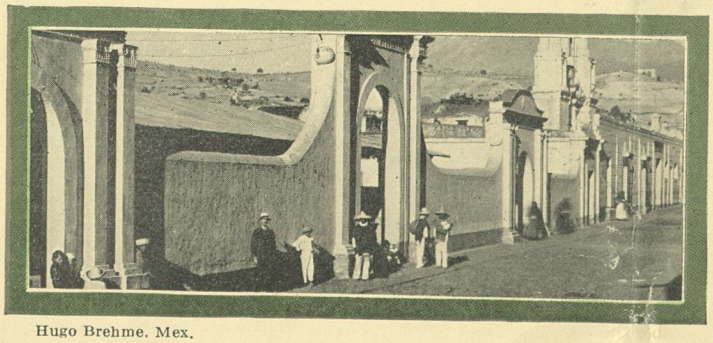
Hugo Brehme, Mex.

The foundation of the Church at Cholula rests upon an ancient pyramid

The Mexican people are passionately fond of flowers, and flower markets are everywhere

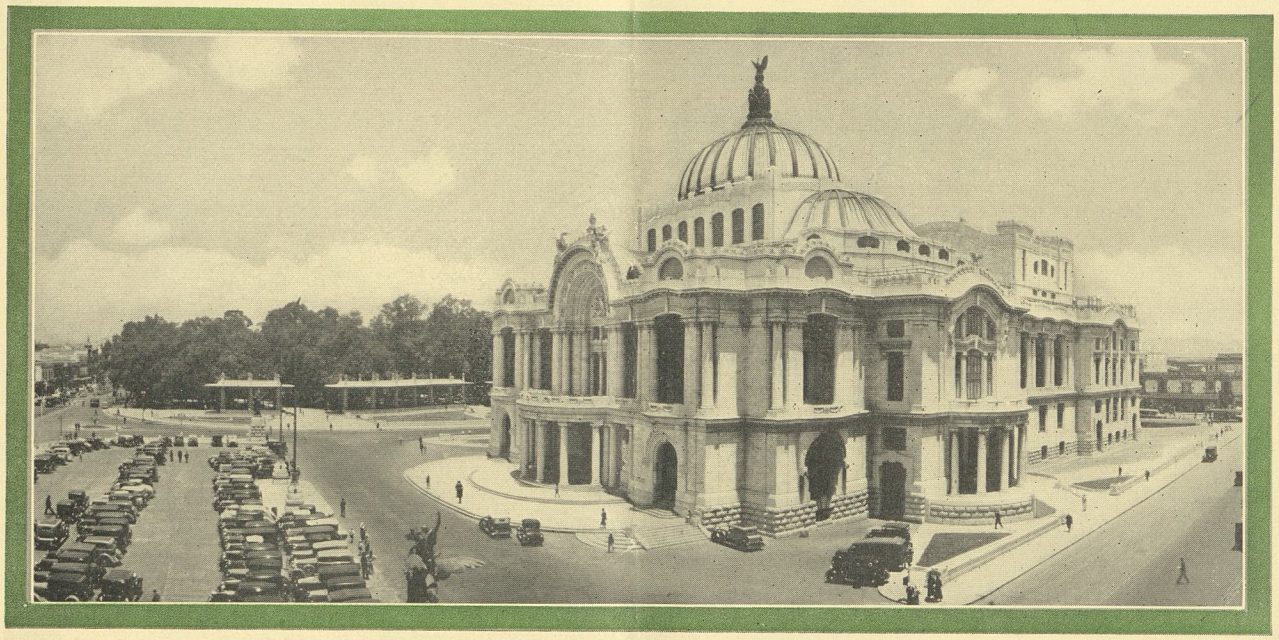
By Burton Holmes from Ewing Galloway

The ascent of Mt. Orizaba begins at San Andres Chalchicomula



Hugo Brehme, Mex.

Standard Gauge Short Line—Electrified Over the Mountains



The beautiful Palace of Fine Arts in Mexico City is a valuable repository of ancient and modern masterpieces

Side Trips for the Tourist in Mexico

NOT all the interest for the traveller lies strictly within the City of Mexico. Many short side trips may be made to excellent advantage to places of absorbing interest, scenic beauty and unusual charm.

The main line and various branch lines of the Mexican Railway take the traveller to and from these places on convenient schedules, and in up-to-date travel luxury. The following are but a few of the many interesting side trips that are recommended to the visitor who may wish to gain a comprehensive view of the country and its people, within a short distance from the Capital.

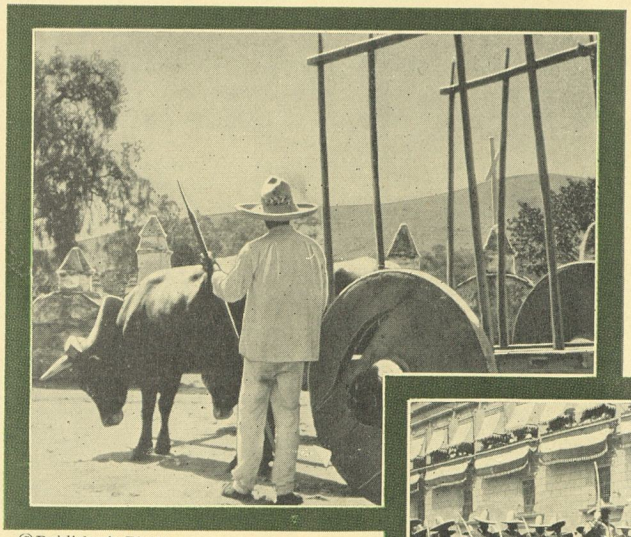
Aztec Calendar Stone. The Original is in the National Museum at Mexico City

Puebla, 116 miles from Mexico City, is situated on the Great Central Plateau at an elevation of 7,100 feet. It is one of the oldest cities of Mexico and it has preserved many of the architectural features of its early Spanish builders. The city is noted for the beauty of its fine old Cathedral, and for the architectural loveliness of many of the more than sixty great churches. Called "The City of the Angels," Puebla lies in a charming valley at the foot of two great snow-capped volcanoes, Popocatepetl and Ixtaccihuatl. Its manufactures of cotton, cloth, pottery and glassware contribute to the prosperity of the people.

Cholula, "The Holy City of Anahuac," is nearby Puebla. It is said that at the time of the Conquest, 400,000 people lived here and in the valley surrounding the city. A prominent feature of the town is the pyramid which is crowned with an exquisite little church. From the court-yard, which extends the whole way round the church buildings, we look out upon one of the most interesting and restful panoramas in the whole of Mexico. On a clear-weather day, and such days are common in the Cholula section, the wonderful panorama seen from the pyramid includes all three of the principal

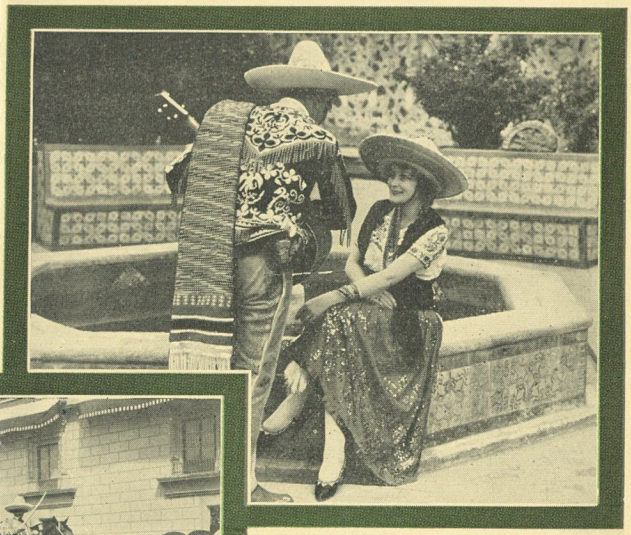
ALL-EXPENSE SIDE TRIPS from MEXICO CITY available the year around over the Mexican Railway. One day or longer to Cordoba, Orizaba, Puebla, Vera Cruz, etc., from $14.65 upward. Ask for our New Folder, illustrated, described on Page 42.

MEXICAN RAILWAY



©Publisher's Photo

On Mexican country roads, clumsy-wheeled carts with high rack sides, pulled by oxen provide the usual means of transportation



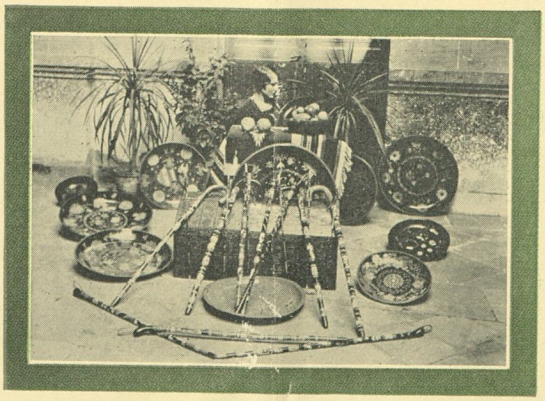
©Hugo Brehme

The richly embroidered jacket and trappings of the serenading "Charro" is even more brilliant than feminine finery

©Hugo Brehme

A parade passes the National Palace in Mexico City . . . resplendent in gold and silver-embroidered hats, jackets and saddle cloths

The Indians are turning today to expert native handicraft



Exquisite feather work and other manual arts reflect their skill

Vera Cruz—Mexico City—Standard Gauge Short Line

volcanoes of the valley. With the sun shining out of a blue sky and the distant snow-capped mountain peaks, seemingly suspended in the ether, and below the fields of corn and the natives with the everlasting "burro"—the donkey which lends such picturesque atmosphere to many a scene throughout the Republic—comes the thought that here, one could rest forever.

Tlaxcala is reached by tramway from Santa Ana on the Puebla branch line of the Mexican Railway. Here are to be seen many ancient relics of the Tlaxcalans who allied themselves with Cortés in his Conquest. The Church of San Francisco, said to be the first edifice for Christian worship constructed in the Western Hemisphere, is here with its original pulpit. This church was built in 1625, and the original structure has been preserved virtually without change.

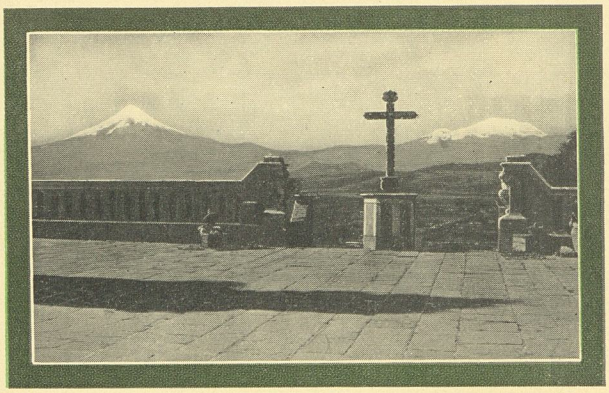
Pachuca, Capital of the State of Hidalgo, is the terminus of a branch line from Ometusco. Here is one of the richest silver mining regions in the world. Mining methods, machinery and smelters are of the most modern and up-to-date kind.

San Juan Teotihuacán, about 28 miles from Mexico City, is the site of the Pyramids of the Sun and of the Moon. The Temple of the Sun, and the Path of the Dead, are among the most notable of the archeological structures of extraordinary interest. The Regional Museum, open free until 4 P. M., contains a most extensive and fascinating collection of objects unearthed in this vicinity. A manual training school in the immediate vicinity also has a fine exhibit, largely of the handicraft of the pupils. San Juan Teotihuacán is reached by daily train service from the *Buenavista* station of the Mexican Railway to Teotihuacán. Between Teotihuacán and the Pyramids, about 2 kilometers, conveyances are available.

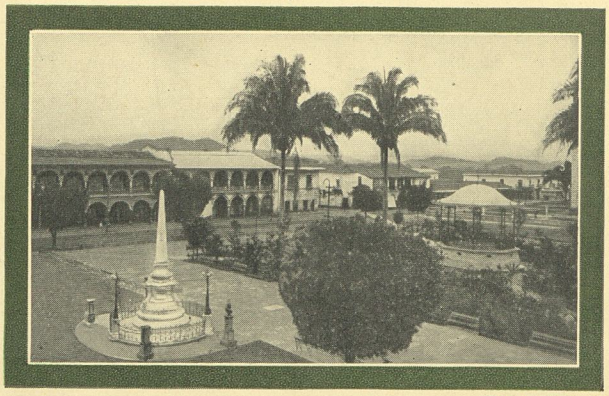
While it is not located on line of the Mexican Railway, no tour of Mexico would be complete without a visit to **Cuernavaca,** the Capital of the State of Morelos. It is a quaint city of upwards of 10,000 inhabitants. It is a thoroughly delightful open air sanitarium, very popular with the people of Mexico City and with all travellers who are fortunate to visit it. The automobile road between Mexico City and Cuernavaca is in good condition and traverses a country of magnificent mountain scenery. Cuernavaca is of uniformly salubrious climate all the year around. The town has a venerable quaintness that

(Continued on Page 27)

The ancient Spanish Fountain of San Miguel is a popular gathering place of the youths of Puebla



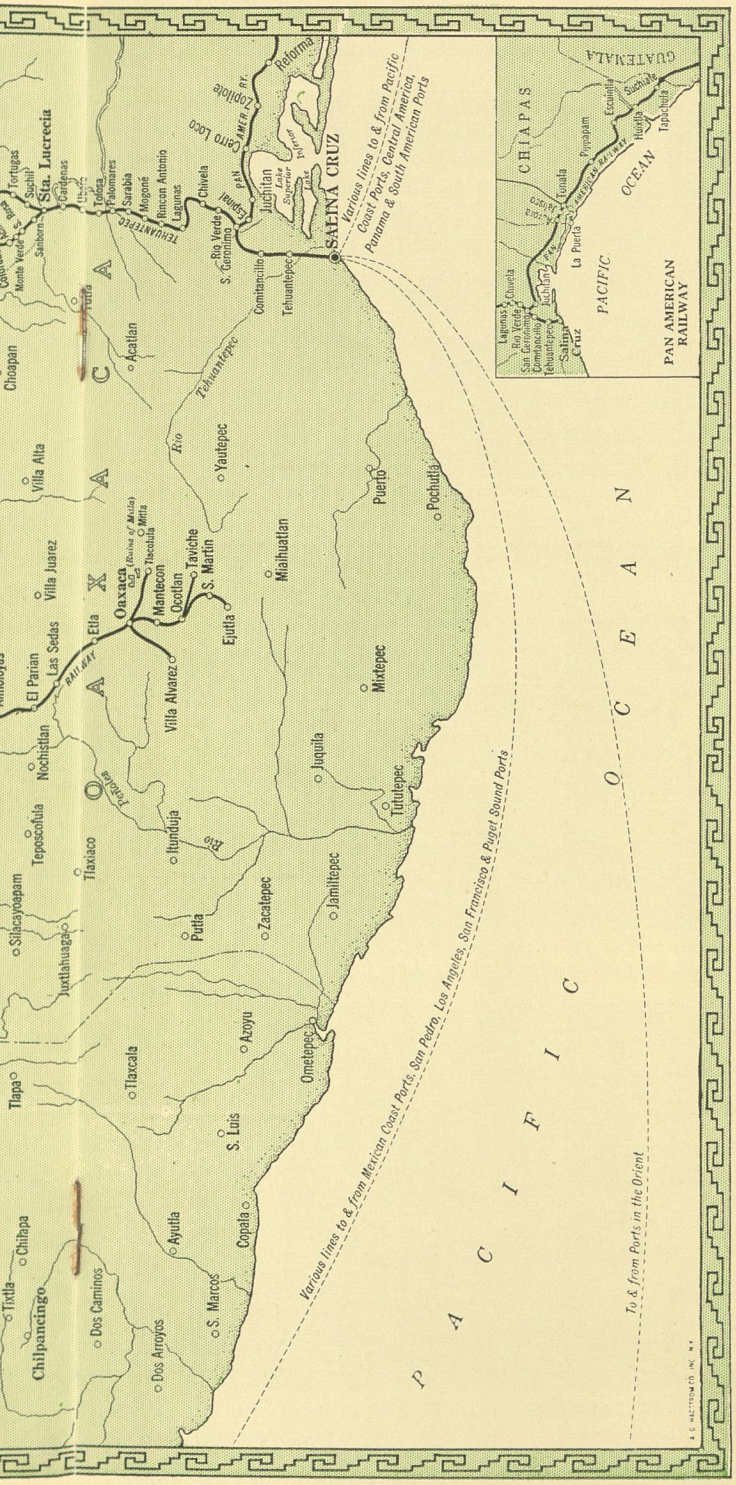
Famous snow-capped peaks of Mexico, Popocatepetl and Ixtaccihuatl, viewed from the top of the Pyramid of Cholula

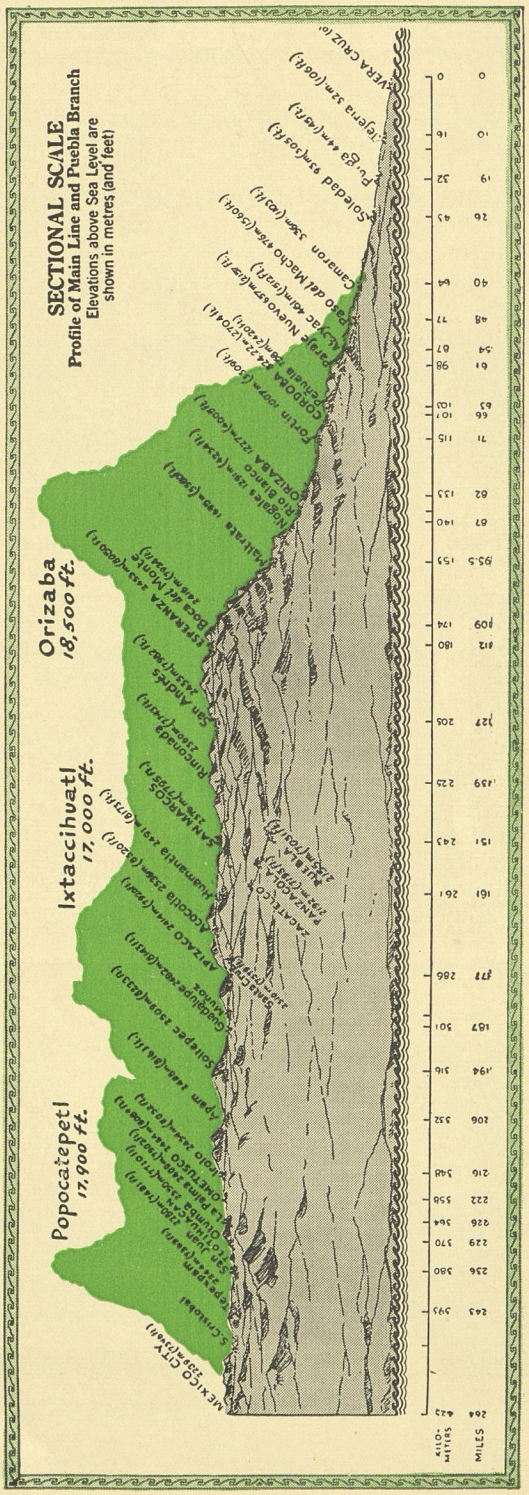


©Hugo Brehme

Bordering the plaza of Cordoba, the colonnaded buildings of Old Mexico offer a pleasant retreat from the mid-day sun

THE MEXICAN RAILWAY
AND CONNEXIONS
LEGEND
Mexican Railway, leased and operated lines
Mexican Railway, lines under construction and projected lines
GULF OF MEXICO
Various Lines - Vera Cruz & Texas Ports
Standard Fruit & S. S. Co. (Vaccaro Line) Vera Cruz & New Orleans
Cia. Trasatlántica Española (Spanish Line)
Cie. Générale Transatlantique (French Line)
Hamburg - American & Ozean Lines
Holland - America Line
Navigazione Libera Triestina (Italian Line)
Swedish - America - Mexico Line
Wilhelmsen Line
To Havana & European Ports
British Ports, Leyland — Harrison Lines
N.Y. & Cuba Mail S.S. Co.
to Progreso, Havana & New York
Various Lines
TAMPICO
TUXPAN
VERA CRUZ
PUERTO MEXICO
Alvarado
Tehuacan
Huatusco
Cordoba
Orizaba
Esperanza
Apizaco
Zacatlan
PACHUCA
MEXICO
PUEBLA
Toluca
Cuernavaca
Puente De Ixtla
Tlancualpican
Huajuapan
Sta. Lucrecia
SAN LUIS POTOSI
QUERETARO
HIDALGO
VERACRUZ
MEXICO
MORELOS
PUEBLA
GUERRERO
OAXACA
Tampico
Tuxpan
Vera Cruz
Puerto Mexico
Alvarado
Tehuacan
Huatusco
Cordoba
Orizaba
Esperanza
Apizaco
Zacatlan
Pachuca
Mexico
Puebla
Toluca
Cuernavaca
Puente De Ixtla
Tlancualpican
Huajuapan
Sta. Lucrecia

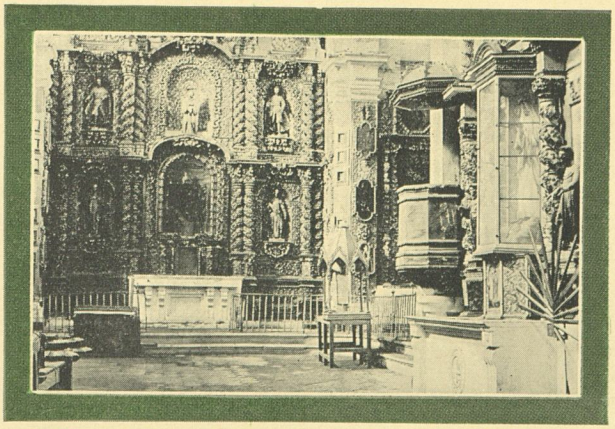

PACIFIC OCEAN
OAXACA
SALINA CRUZ
Various lines to & from Pacific Coast Ports, Central America, Panama & South American Ports
Various lines to & from Mexican Coast Ports, San Pedro, Los Angeles, San Francisco & Puget Sound Ports
To & from Ports in the Orient
Oaxaca
Etla
Mantecon
Ocotlan
Taviche
S. Martin
Ejutla
Miahuatlan
Mixtepec
Puerto
Pochutla
Juquila
Tututepec
Villa Alvarez
Yautepec
Tehuantepec
Comitancillo
Juchitan
Chivela
Rio Verde
S. Geronimo
Cerro Loco
Zopilote
Reforma
Salinas
Lagunas
Tuxtla
Chiapa
Chilpancingo
Dos Caminos
Dos Arroyos
S. Marcos
Copala
Ayutla
Tlapa
Tlaxcala
S. Luis
Azoyu
Ometepec
Jamiltepec
Zacatepec
Putla
Juxtlahuaca
Silacayoapam
Teposcolula
Tlaxiaco
Itundujia
Nochistlan
El Parian
Las Sedas
Villa Juarez
Villa Alta
Choapan
Tuxtla
Sta. Lucrecia
Tortugas
Sagitil
Sanborn
Tehuantepec
Comitancillo
Juchitan
Salina Cruz
CHIAPAS
GUATEMALA
PACIFIC OCEAN
PAN AMERICAN RAILWAY


SECTIONAL SCALE
Profile of Main Line and Puebla Branch
Elevations above Sea Level are shown in metres (and feet)
Orizaba
18,500 ft.
Ixtaccihuatl
17,000 ft.
Popocatepetl
17,900 ft.
MEXICO CITY
VERA CRUZ
KILO-METRES
MILES

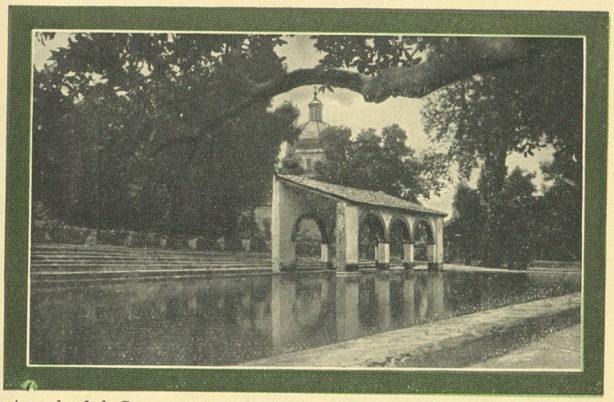
(Continued from Page 21)

is quite in contrast to the more modern cities. The Palace of Cortés was built in 1530 and it is now the seat of the State Legislature. The market place is unusually attractive, noted for its cleanliness and it is a busy spot to which the industrious Indians of the surrounding country bring pottery, textiles, woodenware and other articles of their handicraft for sale. The country boasts of its very fine fruits and flowers, many of which are indigenous thereto. The famous Borda Gardens, at Cuernavaca, were laid out in 1716 by a Frenchman who made his millions in silver mines and spent them lavishly on his chosen retreat. Herein the Emperor Maximilian and his Empress, Carlota, found rest from the cares of state. The gardens are extremely beautiful with their terraces, arcades, pergolas, arbours and artificial lakes. Cuernavaca has several well managed hotels which are popular with the tourists. Reservations over the week-end should be made in advance. From Cuernavaca excursions are made by motor car to the celebrated Cacahuamilpa caverns which are more extensive than Mammoth Cave, in Kentucky, and of equal beauty.

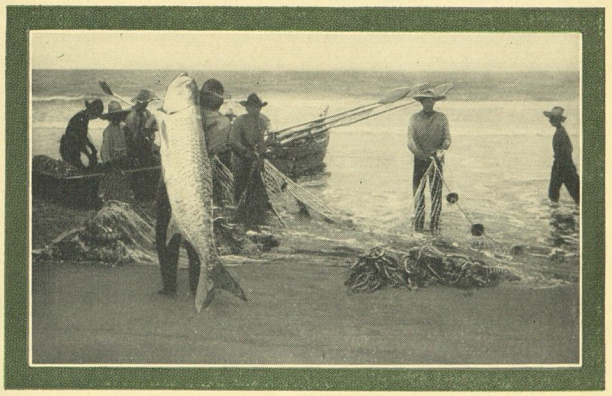
This brief list is no more than a beginning of a catalogue of the pleasant places near Mexico City that will richly repay the tourist for visiting them. Short trips will reveal to him new phases of the land and of the lives and activities of the people. Officials of the Mexican Railway will gladly lend their expert assistance in the arrangement of itineraries of whatever scope may be desired.



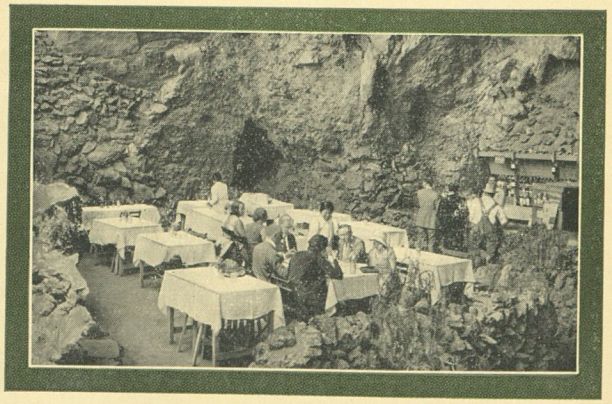
At Tlaxcala is the first Christian pulpit used in New Spain



At colorful Cuernavaca, the imposing Borda Gardens were once enjoyed by Emperor Maximilian and Empress Carlota ©H. Brehme

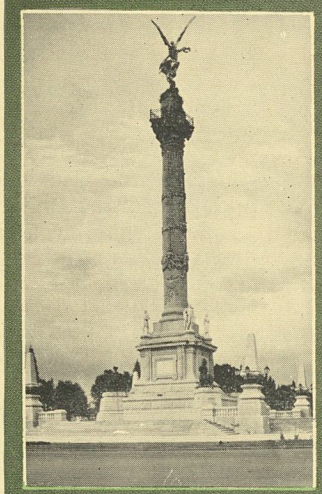


Through the surf at Vera Cruz, native fishermen bring their day's haul. Fishing is an important Mexican industry ©H. Brehme



In a cave at Teotihuacán, near the Pyramids of the Sun and Moon, this cafe serves Mexican dishes and beverages ©E. Galloway

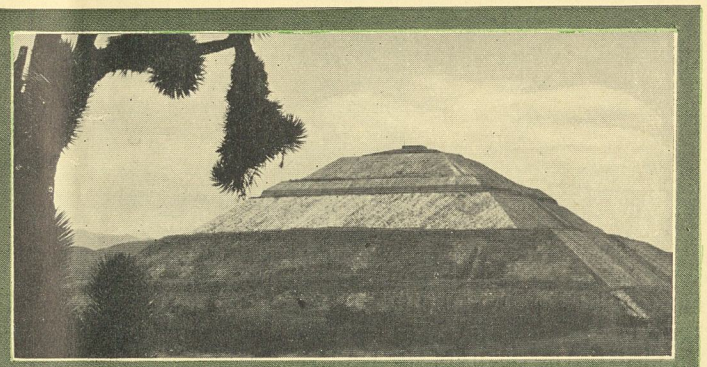
VERA CRUZ ROUTE



©Publishers' Photo Service, N. Y.

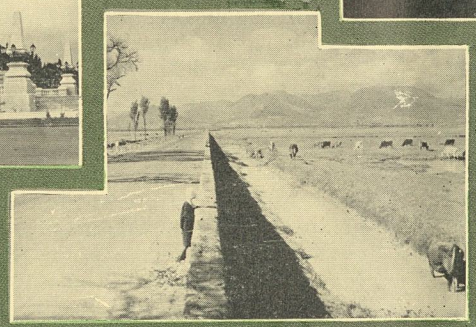
Mexico's monument to National Independence, Paseo de la Reforma, Mexico City

Shrouded in mystery the Pyramid of the Sun at San Juan Teotihuacán keeps its secret →



Hugo Brehme

Old Spanish Highway, en route to the Pyramids of San Juan Teotihuacán ←



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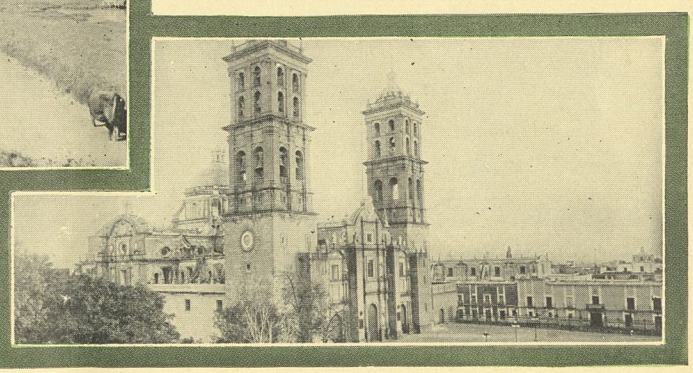
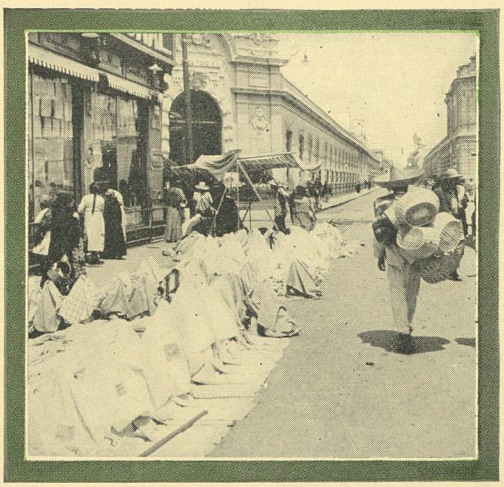


The Cathedral at Puebla, famous for its bells

Mexico City's street markets are sources of interest and pleasure to the visitor



© By Burton Holmes from Ewing Galloway

The National Palace in Mexico City is a vast and imposing structure

© By Burton Holmes from Ewing Galloway

ALL-EXPENSE SIDE TRIPS from MEXICO CITY available the year around over the Mexican Railway. One day or longer to Cordoba, Orizaba, Puebla, Vera Cruz, etc., from $14.65 upward. Ask for our New Folder, illustrated, described on Page 42.

The Call of the Sea

On to Mexico — A Foreign Land a Step Away

"WHAT do they know of England who only England know?" This slogan for a hundred years or more appeared on the editorial page heading of one of the principal London dailies. It may well be paraphrased to read "What do they know of America who know only the United States?"

Spirited Americans of the United States are reaching out for a wider personal knowledge of and closer contact with that greater area known to the world at large as The Americas. They are athirst for more authoritative and more intimate understanding of their neighbours than can be had from books, and in their quest are becoming the world's most active and exploratory travellers in lands other than their own.

Nearest of the foreign lands is Mexico, whose people, manners, customs, dress, are so utterly different from those of the north; whose sights and scenes, whose natural characteristics and wonders are so amazingly impressive and beautiful that to see them is to assure a wealth of new, valuable and delightful experiences.

The mysterious charm of the sea in its most agreeable aspects is felt on the pleasant cruise between New York and Vera Cruz, the port at which one disembarks for the inland journey to Mexico City over the Mexican Railway. Sailing southward in the Atlantic along the eastern coast of the United States, the steamer swings around the extreme tip of Florida and makes a brief stop at Havana. Thereafter the course is a little south of West, across the beautiful expanse of the Gulf of Mexico, past the peninsula of Yucatan and into the sheltered harbour of Vera Cruz, where connexion is made with the Mexican Railway for the interior states and cities.

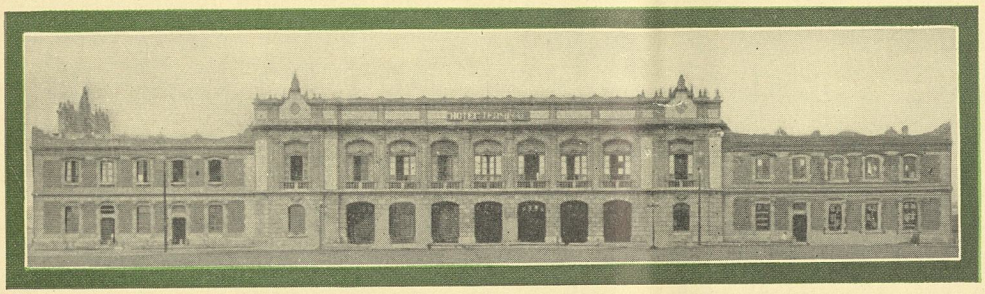
Vera Cruz may also be reached by sea from New

Mexico City one-way and round-trip fares from New York and New Orleans via Vera Cruz are shown on Page 41

©Ewing Galloway

Vera Cruz can boast of a Waterfront of Exceptional Interest

Vera Cruz — Mexico City — Standard Gauge Short Line



Spacious Hotel and Railway Station in one, the "Terminal" is the Vera Cruz terminus of the Mexican Railway

Orleans, a somewhat shorter but none the less alluring voyage of about seventy hours across the Gulf of Mexico.

Upon these too-brief voyages is felt the deep "call of the sea" that touches the secret places of the soul. Its lure is ever fresh and impelling, ever romantic and satisfying. The fret and care of cities, the responsibilities of life fade away and vanish in the glory of moonlit nights at sea and the pleasant idleness of an ocean voyage such as this.

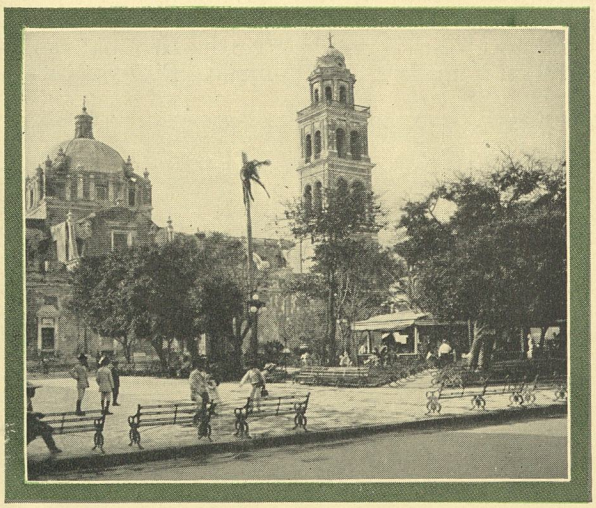
Mexico—a foreign land a step away—has for decades of years claimed and held fast the interest of tourists from every land. Mexican life in the larger cities, in the picturesque little villages, along its travelled highways and off the beaten paths, has ever been and ever will be crowded with fascination and interest for the traveller. And when the time eventually comes to sail away, one leaves Mexico with reluctance and with the determination to come again.

© J. F. Birean, Vera Cruz

Plaza de la Constitución, Vera Cruz

© Publishers' Photo Service, N. Y.

Lighthouse, Post Office and Customs House—Vera Cruz



© Hugo Brehme, Mex. City

Parish Church, Vera Cruz

Electrified Over the Mountains

How to Reach Vera Cruz by Sea From New York and New Orleans

Mexico City one-way and round-trip fares from New York and New Orleans via Vera Cruz are shown on Page 41

New York Service

LUXURIOUS and dependable passenger and cargo steamship service is maintained all the year around by the New York and Cuba Mail S.S. Co. between New York City and Vera Cruz, the seaboard terminal of the Mexican Railway. Sailings from New York are weekly and calls are made at Havana, Cuba, and at Progreso, Mexico. Northbound sailings from Vera Cruz are made on regular schedules every week, calling at Havana enroute. Stopover at Havana is permitted upon application to the ticket selling agency. The trip between New York and Vera Cruz takes six days.

In this service are the splendidly appointed steamships "Orizaba", "Siboney" and "Mexico", which provide a wide range of private accommodations.

These steamships are notable for their generous deck space for games, sports and recreation; for their spacious and beautifully appointed lounges, smoke rooms, tea rooms, libraries, writing rooms and other public places, including the ball room and the dancing deck. An excellent orchestra provides music for daily concerts and dancing every evening. The dining rooms are large, light, beautifully decorated and sumptuously appointed, in keeping with the excellent cuisine and service.

All-Inclusive Mexico City trips from New York City by the New York and Cuba Mail S.S. Co. include transportation with stateroom accommodations from New York to Vera Cruz and return by these steamers; sightseeing trip in Havana; transportation from Vera Cruz to Mexico City and return

A Vaccaro Line Steamer

One of the fast and commodious liners of the New York and Cuba Mail S.S. Co. in regular service between Mexico, Cuba and New York

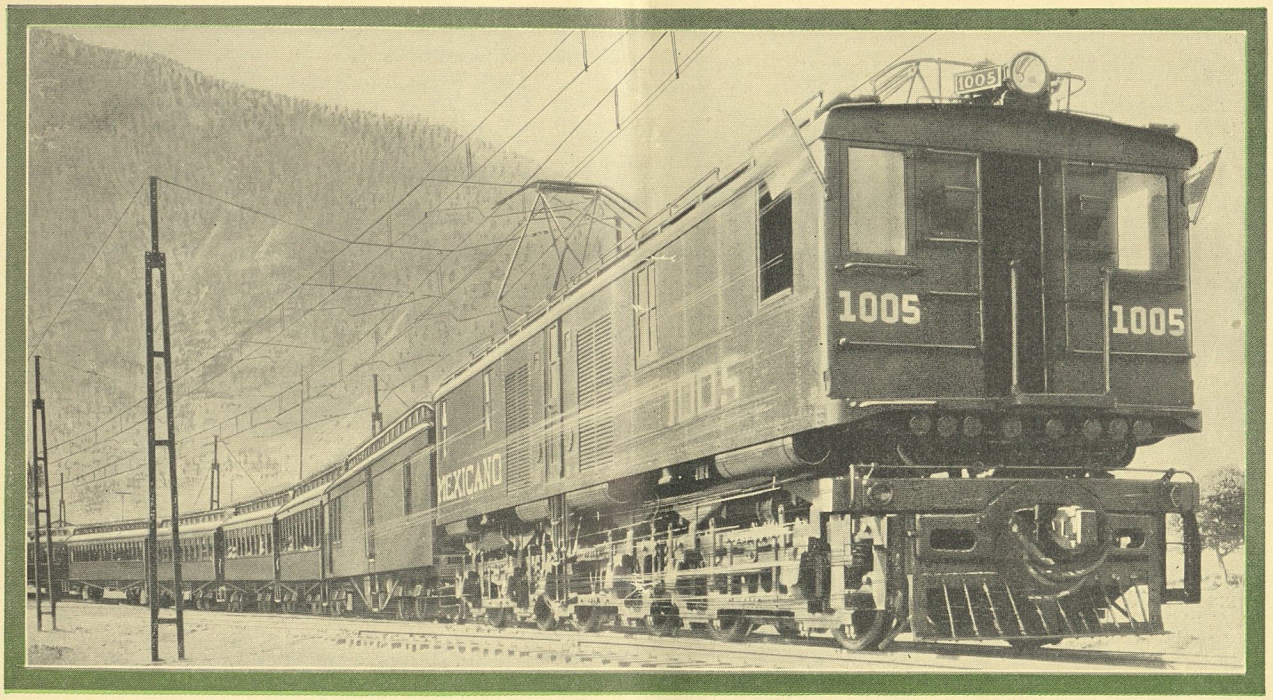
by the Mexican Railway, with parlor car seat reserved for the daylight trip and sleeping-car berth reserved for the night trip; first-class hotel accommodations at Mexico City, with meals on the American plan, and extensive sightseeing trips in and about the City. Fares, page 41.

The principal office of the New York and Cuba Mail Steamship Company is located at Pier 13, East River, foot of Wall Street, New York.

New Orleans Service

The Standard Fruit and Steamship Company (Vaccaro Line) operates a dependable passenger and cargo steamship service between New Orleans, La., and Vera Cruz, with sailings from New Orleans and Vera Cruz every week. The voyage between-ports is an alluring trip of seventy golden hours across the Gulf of Mexico. Reservations are made by the Steamship Company, General Agents, 140 Carondelet Street, New Orleans, or branch agencies at other points. Fares, page 41.

Interline through tickets, one-way and round-trip, are issued by railroad agents from Chicago, Cincinnati, Cleveland, Atlanta and other points to Mexico City via New Orleans and Vera Cruz. The railroad ticket agents will make stateroom berth reservations in advance. Liberal stopover privilege is allowed at New Orleans to the holders of through tickets, subject to the customary notice requirements of the terminal railroad and steamship lines. Through ticket fares are ordinarily lower than the combination of local ticket fares.



Two Fast Express Trains daily in each direction between Mexico City and Vera Cruz
First and second class through Coaches.

Daylight Service—Trains Nos. 1 and 2 carry Reclining-Chair Saloon-Observation-Dining Cars between Mexico City and Vera Cruz. Comfortable, roomy standard-gauge Cars—**a restful and picturesque trip.** Broiler-Buffet serving all meals, table d'hote and a la carte.

Night Service—Southward, Train No. 5 carries Drawing-room Sleeping Cars from Mexico to Cordoba and Vera Cruz. Cordoba Sleeper on No. 7 from Orizaba. Northward, Train No. 6 carries Drawing-room Sleeping Cars from Vera Cruz and Cordoba to Mexico. Cordoba Sleeper is ready for occupancy from **9.00 P. M.** Comfortable, roomy standard-gauge Sleeping Cars. Broiler-buffet serving all meals, table d'hote and a la carte.

▲Main Line Time Table

READ DOWN					READ UP			
5	3	1	Miles	STATIONS	Kms.	2	4	6
P.M.	P.M.	A.M.				P.M.	A.M.	A.M.
*8.25	*4.05	*7.30	0	Lv. ‖**Mexico** *Buenavista*. Ar.	425	6.50	11.05	7.05
8.39	4.19	7 44	5	.....La Villa.....	418	6.33	10.48	6.48
8.47	b4.29	b7.53	10	....Santa Clara....	410	b6.19	b10.36	6.35
8.55	b4.37	b8.01	14	....San Cristóbal....	403	b6.10	b10.28	6.27
b9.09	4.49	8.13	21	.....Tépexpan.....	393	5.58	10.16	b6.15
.....	b4.57	b8.21	25	.....Xometla.....	385	b5.49	b10.08	.....
b9.24	5.04	8.29	28	San Juan Teotihuacán	380	5.43	10.02	b6.01
b9.39	5.16	8.45	35	.....Otumba.....	370	5.31	9.50	b5.49
b9.50	5.23	8.55	38	.....La Palma.....	364	5.23	b9.43	b5.41
9.59	5.35	9.09	42	Ar...**Ometusco**..Lv.	358	5.15	9.36	5.34
10.05	5.35	9.09	42	Lv...**Ometusco**..Ar.	358	5.15	9.36	5.34
.....	b5.38	b9.13	43	.....Xala.....	355	b5.08	b9.31	.....
b10.17	5.46	9.22	48	.....**Irolo**.....	348	4.58	9.22	b5.18
b10.24	b5.53	9.29	52	....Acopinalco....	341	4.50	b9.15	b5.11
10.37	6.05	9.43	58	.....Apam.....	332	4.40	9.06	5.02
10.41	b6.09	b9.47	59	.....Ocotepec.....	330	b4.33	b9.01	4.55
10.50	b6.18	9.56	65	.....Tetlapayac.....	321	4.23	b8.52	4.46
10.56	6.25	10.03	70	.....Soltepec.....	316	4.16	8.45	4.40
11.01	6.29	10.08	72	.....Cerrito.....	311	4.10	8.40	4.36
11.12	b6.41	10.21	77	.....Guadalupe.....	301	3.55	b8.28	4.22
b11.18	6.48	10.30	80	.....**Muñoz**.....	296	3.48	8.22	b4.16
11.29	6.59	10.41	87	Ar...‖**Apizaco**...Lv.	286	3.30	*8.07	3.59
11.40	P.M.	10.55	87	Lv....**Apizaco**...Ar.	286	3.18	A.M.	3.45
11.49		b11.05	91	.....Tochac.....	279	b3.10		3.38
b12.03		11.20	95	.....Acocotla.....	272	3.02		b3.31
b12.16		11.34	103	....Huamantla....	261	2.46		b3.16
12.27		b11.46	109	.....Tamariz.....	249	b2.30		3.01
b12.39		11.57	113	.....**San Marcos**.....	243	2.21		b2.52
12 46		b12.05	118	.....Moctezuma.....	236	b2.08		2.39
b12.58		12.19	125	.....Rinconada.....	225	1.55		b2.27
1.10		b12.32	130	.....Aljibes.....	215	b1.43		2.16
b1.22		12.45	137	.....San Andrés.....	205	1.31		b2.06
1.31		12.53	144	.....San Pedro.....	199	1.23		1.59
1.44		b1.06	148	.....Los Reyes.....	187	b1.06		1.44
1.52		1.15	152	Ar..‖**Esperanza**..Lv.	180	*12 59		*1.37
A.M.		P.M.		Continued		P.M.		A.M.

Through cars Mexico to Puebla / *Through cars Puebla to Mexico*

READ DOWN					READ UP			
5	7	1	Miles	STATIONS	Kms.	2	8	6
A.M.		P.M.		Continued		P.M.		A.M.
*2.02		*1.35	152	Lv..**Esperanza**.Ar.	180	12.39		1.27
2.12		1.46	155	..Boca del Monte..	174	12.28		1.17
2.33		2.07	160	....Alta Luz....	166	12.04		12.54
b3.05		2.39	169	.....Maltrata.....	153	11.32		b12.22
3.30		3.04	175	.....Encinar.....	143	11.07		11.57
b3.33		3.07	176	...Santa Rosa...	142	11.03		b11.53
b3.37		3.12	177	.....Nogales.....	140	10.59		b11.49
b3.42		3.17	179	...Rio Blanco...	138	10.54		b11.44
3.51	A.M.	3.26	182	Ar. ‖**Orizaba**..Lv.	133	10.45	P.M.	11.35
4.04	*7.35	3.36	182	Lv...**Orizaba**..Ar.	133	10.35	5.55	11.25
4.21	7.55	3.54	189	....Sumidero.....	121	10.18	5.37	11.08
.....	.....	.....	190	.....Metlac.....	119	.....	.....	.....
4.36	8.13	4.10	193	.....Fortin.....	115	10.02	5.20	b10.53
4.48	8.27	4.22	198	Ar...**Cordoba**..Lv.	107	9.47	5.01	10.38
4.58	8.37	4.32	198	Lv...**Cordoba**..Ar.	107	9.37	4.51	10.23
b5.06	8.47	4.41	201	.....Peñuela.....	103	9.29	4.41	b10.15
b5.13	8.57	4.49	203	...Paraje Nuevo...	98	9.21	4.21	b10.08
b5.25	9.19	5.01	208	.....Potrero.....	90	9 09	4.03	b9.56
5.31	9.27	5.08	210	.....Atoyac.....	87	9.04	3.52	b9.49
.....	b9.35	.....	213	.....San Alejo.....	84	.....	b3.43	.....
5.48	9.45	5.24	216	Ar ‖ **Paso del Macho** .Lv.	77	8.46	3.32	9.31
5.53	9.50	5.29	216	Lv...**Paso del Macho**..Ar.	77	8.41	3.24	9.26
b6.10	10.10	5.46	224	.....Camarón.....	64	8.22	2.59	b9.06
6.25	b10.26	b6.02	232	...Mata de Agua...	52	b8.02	b2.35	8.45
6.40	10.44	6.17	238	.....Soledad.....	43	7.49	2.18	8.31
6.56	11.03	6.32	245	.....Purga.....	32	7.33	1.55	b8.12
7.03	b11.11	b6.41	248	.....Mata Loma....	26	b7.26	b1.45	b8.04
b	b11.19	b6.48	252	.....Santa Rita.....	20	b7.19	b1.37	b7.57
b7.14	b11.25	b6.54	254	.....Tejería.....	16	b7.14	b1.31	b7.52
7.23	11.34	7.03	259	....Tembladera....	9	7.04	1.21	7.43
7.30	11.44	b7.12	262	.....Los Cocos.....	3	b6.55	1.09	7.35
7.40	11.55	7.20	264	Ar...**Vera Cruz**..Lv.	0	*6.50	*1.01	*7.30
A.M.	A.M.	P.M.				A.M.	P.M.	P.M.

ELECTRICALLY OPERATED

▲These Time Tables are published as a matter of information, subject to change. The latest time tables are published monthly in The Official Railway Guide and in our Spanish Folder.

b—Flag stop only.

‖—Meal Station.

*—Daily.

The Mexican Railway
▲Branch Lines-Condensed Tables

READ DOWN — **Pachuca Branch** — READ UP

24	22	Miles	STATIONS	Kms.	21	23
P.M.	A.M.				A.M.	P.M.
*5.45	*9.45	0	Lv. . . . **Ometusco** . . . Ar.	46	8.55	5.04
b6.05	b10.05	8	. . . . . Venta de Cruz	33	b8.32	b4.42
6.18	10.18	11	. . . . . Zempoala	28	8.24	4.34
b6.55	b10.55	22	. . . . . San José	10	b7.40	b3.50
7.15	11.15	29	Ar. . . . . **Pachuca** . . . . Lv.	0	*7.20	*3.30

Zacatlan Branch

42	Miles	STATIONS	Kms.	41
A.M.				P.M.
*10.35	0	Lv. . . . . **Muñoz** . . . . . Ar.	53	3.35
10.59	7	. . . . . San Luis	42	3.09
b11.47	19	. . . . . Aserradero	24	b2.20
b12.32	30	. . . . . Atlamaxac	6	b1.24
12.45	33	Ar. . . . . **Chignahuapan** . . . . . Lv.	0	*1.10

Puebla Branch

Mexico City and Vera Cruz—Through and Connecting Trains.

5–51	3 ▣	2–57	1–55	6–53	STATIONS	52–6	4 ▣	54–1	56–2	58–5
P.M.	P.M.		A.M.		Mexico (*Buenavista*)	A.M.	A.M.		P.M.	
*8 25	*4.05	.....	*7.30	.....	Lv. Ar.	7.05	11.05	.....	6.50	.....
11.29	6.59	.....	10.41	.....	Ar. . . . . **Apizaco** . . . . . Lv.	*3.59	*8.07	.....	*3.30	.....
		A.M.		P.M.	**Vera Cruz**			P.M.		A.M.
.....	.....	*6.50	.....	*7.30	Lv. Ar.	.....	.....	7.20	.....	7.40
.....	.....	3.18	.....	3.45	Ar. . . . . **Apizaco** . . . . . Lv.	.....	.....	*10.55	.....	*11.40

*	*	*	*	*		*	*	*	*	*
P.M.	P.M.	P.M.	A.M.	A.M.		A.M.	A.M.	A.M.	P.M.	P.M.
11.45	7.05	4.05	11.05	5.20	Lv. . . . ‖**Apizaco** . . . . Ar.	3.40	8.02	10.10	3.11	11.15
b11.59	b7.17	b4.20	b11.20	b5.35	Ar. . . San Manuel . . . . Lv.	b3.26	b7.50	b9.53	b2.57	b11.01
b12.06	b7.24	4.28	11.27	b5.43	" . . . Santa Cruz . . . "	b3.19	b7.43	9.45	2 50	b10.54
b12.18	7.34	4.43	11.39	b6.01	" . . . . Santa Ana . . . . "	b3.07	7.35	9 32	2 38	b10.42
b12.40	b7.48	5.09	11.59	b6.21	" . . . . Zacatelco . . . . "	b2.43	b7.19	9.02	2.10	b10.18
b12.52	b7.56	5.20	12.12	b6.29	" . . . . Panzacola . . . . "	b2.31	b7.10	8.50	1.59	b10.06
1.10	8.10	5.40	12.30	6.45	" . . . . . **Puebla** . . . . . "	2.10	6.55	8.30	1.40	9.45
A.M.	P.M.	P.M.	P.M.	A.M.		A.M.	A.M.	A.M.	P.M.	P.M.

Apizaco-Puebla, 47 kms., 29 miles.

▣**Through Cars on Trains Nos. 3 and 4, daily, between Mexico City and Puebla via Apizaco.**

Huajuapan Branch

61	Miles	STATIONS	Kms.	62
*6.30A.M.	0	Lv. . . . . **San Marcos** . . . . . Ar.	90	1.59P.M
b6.55	7	. . . . . Martínez Andrade	78	b1.40
7.40	21	. . . . . Acatzingo	56	12.35
8.05	27	Lv. . . . . **Rosendo Márquez** . . . . Ar.	46	11.53
9.40	56	Ar. . . . . **Ixcaquixtla** . . . . . Lv.	0	*10.05

Huatusco Branch

74	72	Miles	STATIONS	Kms.	71	73
P.M.	A.M.				A.M.	P.M.
*5.01	*5.15	0	Lv. . . . . **Cordoba** . . . . . Ar.	32	9.20	9.10
5.20	5.30	2	. . . . . San Antonio	29	9.10	8.59
b6.09	b6.19	11	. . . . . Monte Blanco	15	b8.28	b8.18
b6.47	b6.57	16	. . . . . Tomatlán	7	b7.59	b7.49
7.08	7.18	20	Ar. . **Coscomatepec** . . Lv.	0	*7.38	*7.28
P.M.	A.M.				A.M.	P.M.

Tlaxcala Branch, Motor Traction

Trains leave Santa Ana at 6.01 A.M. and at frequent intervals until 7.34 P.M., daily, for Apetatitlan (3 klms.) and Tlaxcala (9 klms.).

Trains leave Tlaxcala at 5.15 A.M. and at frequent intervals until 6.40 P.M. daily, for Apetatitlan and Santa Ana.

b—Flag stop only. ‖—Meal Station. *—Daily. †Daily, except Sunday.

Mexico City Connections to and from the South
AT PUEBLA, CORDOBA, VERA CRUZ

Condensed Schedules ▲ Subject to Changes

PUEBLA, TEHUACAN, OAXACA, Etc.

Mexican Southern Railway

Examples of Daily Service, except as noted			STATIONS	Rail-way	*Examples of Daily Service, except as noted*		
*7.30	*4.05	*8.25	Lv. Mexico (Buenavista). Ar.	*Mex. Ry.*	7.05	6.50	11.05
12.30	8.10	1.10	Ar. . . . . Puebla . . . . . Lv.	*Mex. Ry.*	*2.10	*1.40	*6.55
*5.45	a10.05	*6.35	Lv. . . . . Puebla . . . . . Ar.	*Mex. So.*	7.15	7.25	10.50
8.55	12.53	9.05	Ar. . . . . Tehuacan . . . . . Lv.	*Mex. So.*	3.35	4.27	*7 15
.....	8.10	6.10	Ar. . . . . Oaxaca . . . . . Lv.	*Mex. So.*	*7.15	c9 00	.....

The Ruins of Mitla, by conveyance from Oaxaca.

*Daily. For additional daily trains between Mexico and Puebla, see Puebla Branch Table on page 39.

aMonday, Wednesday and Friday.

cTuesday, Thursday and Sunday.

Puebla—Stations of the Mexican Ry. and Mex. So. Ry. are about 200 yards apart

CORDOBA, VERA CRUZ, SANTA LUCRECIA, PUERTO MEXICO, SALINA CRUZ, SUCHIATE, Etc.

National Rys. of M., Tehuantepec N. Ry., Pan American Ry.

Examples of Daily Service		STATIONS	Rail-way	*Examples of Daily Service*	
A.M.	P.M.			A.M.	P.M.
*7.30 Mon.	*8.25 Mon.	Lv. Mexico (*Buenavista*). Ar.	*Mex.*	7.05 Wed.	6.50 Wed.
4.22 Mon.	4.48 Tue.	Ar. . . . ①**Cordoba** . . . . . Ar.	*Mex.*	10.23 Tue.	9.37 Wed.
7.20 Mon.	7.40 Tue.	Ar. . . . ②**Vera Cruz** . . . . Lv.	*Mex.*	*7.30 Tue.	*6.50 Wed.
	*9.10 Tue.	Lv. . . . . ①**Cordoba** . . . . . Ar.	*Nat.*	4.30 Tue.	
	12.05 Tue.	Ar. . . Tierra Blanca . . . Lv.	*Nat.*	*1.15 Tue.	
	*9.45 Tue.	Lv. . . . ②**Vera Cruz** . . . . Ar.	*Nat.*	4.25 Tue.	
	12.35 Tue.	Ar. . . Tierra Blanca . . . Lv.	*Nat.*	1.00 Tue.	
	*1.05 Tue.	Lv. . . **Tierra Blanca** . . . Ar.	*Nat.*	12.30 Tue.	
	2.10 Tue.	Ar. . . . Tres Valles . . . . Lv.	*Nat.*	11.26 Tue.	
	4.48 Tue.	Ar. . Rodriguez Clara . . Lv.	*Nat.*	8.15 Tue.	
	7.30 Tue.	Ar. . . . ‖Jesus Carranza . Lv.	*Nat.*	*5.15 Tue.	
	*1.10 Wed.	Lv. . Jesus Carranza . . . . Ar.	*T'pec*	10.20 Mon.	
	5.45 Wed.	Ar. . . Coatzacoalcos . . . . Lv.	*T'pec*	*6.00 Mon.	
	*8.00 Tue.	Lv. . . Jesus Carranza . . . Ar.	*T'pec*	4.35 Tue.	
	12.35 Wed.	Ar. . . . . Ixtepec . . . . . Ar.	*T'pec*	11*50 Mon.	
	10*50 Wed.	Lv. . . Jesus Carranza . . . Ar.	*T'pec*	12.42 Mon.	
	5.50 Wed.	Ar. . . . **Salina Cruz** . . . . Lv.	*T'pec*	*6.00 Mon.	
	*1.10 Wed.	Lv. . . . . Ixtepec . . . . . Ar.	*P. Am.*	11.20 Mon.	
	6.30 Wed.	Ar. . . . . ‖Tonala . . . . . Lv.	*P. Am.*	6.10 Mon.	
	6.30 Wed.	Ar. . . . ③**Suchiate** . . . . Lv.	*P. Am.*	*6.30 Mon.	

●Vera Cruz to Suchiate daily train service. Trains from Vera Cruz on Sundays, Tuesdays and Fridays carry through sleeping cars to Suchiate.

●Suchiate to Vera Cruz daily train service. Trains from Suchiate on Sundays, Tuesdays and Thursdays carry through sleeping cars to Vera Cruz.

③Opposite to Suchiate, Mexico, is AYUTLA, GUATEMALA.

Standard Drawing Room Sleeping Cars, broiler-buffet service between Mexico City, Cordoba and Vera Cruz, daily, via the Mexican Ry.

Standard Saloon-Observation Cars, broiler-buffet service (daylight) between Mexico City, Cordoba and Vera Cruz, daily, via the Mexican Ry.

●Refer to marginal notes for sleeping car services on lines south of Cordoba and Vera Cruz.

▲These Time Tables are published as a matter of information, subject to change. The latest time tables are published monthly in The Official Railway Guide and in monthly folders of The Mexican Railway and connecting lines. Note—A.M. time is shown in light-face type. **P.M. time is shown in dark-face type.**

Pointers for Tourists—For General Information see pages 43 and 44

CLOTHING, WHAT TO WEAR—In Vera Cruz and the lowlands near the Coast very light weight clothing is desirable. On the Great Central Plateau, 5,000 feet and upwards above the sea level, the climate is temperate all year round and ordinary Fall-weight clothing can be worn with comfort during the day. After sundown it is invariably cool and an overcoat or wrap of light weight is very necessary if one is abroad in the evenings.

TOURIST GUIDES AND LITERATURE—"Terry's Guide to Mexico" is the most comprehensive up-to-date publication of its kind: Houghton Mifflin Company of Boston are publishers. As histories go the most popular appears to be Prescott's "Conquest of Mexico." In the field of fiction, "Aztec Treasure House," by Janvier and "The Fair God," by Lew Wallace are numbered among the best sellers to the tourists who are visiting Mexico in larger numbers year by year. Mme. Calderon de la Barca's descriptive "Life in Mexico" is a classic which should not be missed.

MEXICO CITY JOINT FARES
From New York, N. Y.
Also From Havana, Cuba
New York and Cuba Mail Steamship Co.

TICKETS ON SALE ALL YEAR ⓐSTEAMERS CALL AT HAVANA

Via Vera Cruz and The Mexican Railway	*Fares in U. S. Currency
New York to Mexico City, One Way	$ 100.00, 80 Days
New York-Mexico City, Round Trip, Steamer both ways	170.00, 6 Mos.
① New York-Mexico City, R.T., Rail-Water Circle Tour	158.00, 30 Days
① New York-Mexico City, R.T., Rail-Water Circle Tour	178.80, 6 Mos.
② New York-Mexico City and Pacific Coast, R.T., Rail-Water Circle Tour, going or returning via the Pacific Coast, Los Angeles, San Francisco, etc.	255.10, 12 Mos.
③ New York to Mexico City and Return, All Expense inclusive Tour, Steamer both ways, Hotels and Sight-seeing Trips, $235.00 25 days	200.00, 18 Days
① New York-Mexico City, R.T., Rail-Water Circle Tour, including All Expenses except that Holders pay for Meals on trains. Pullman accommodations enroute, also Hotels and Sight-seeing Trips (5 days in Mexico City) for a tour of 15 days' duration, are included	240.00, 30 Days
New York to Mexico City and Return thence to Havana only	155.00, 6 Mos.
Havana, Cuba to Mexico City, One Way, transit limit.	65.00, 15 Days
Havana to Mexico City and Return, Steamer both ways	110.00, 6 Mos.

Notes and Symbols

Sailings (subject to change) from New York, Foot of Wall Street, Weekly. Weekly sailings from Vera Cruz.

Stateroom Reservations: Apply to the General Passenger Department, New York & Cuba Mail S. S. Co., Pier No. 13, Foot of Wall St., New York, N. Y., or to the nearest Agency of the Company.

① Mexico City R.T. Rail-Water Circle Tour Tickets at the same fares are available from authorized inland points on main line ticketing routes.

② Mexico City R.T. Rail-Water Circle Tour Tickets at the same fare are available from authorized inland points on main line ticketing routes. Tourists have option of route going or returning, via El Paso and the National Railways of Mexico, or via Nogales and Southern Pacific Ry. of Mexico through Guadalajara and National Railways of Mexico.

③ All Expense Tours of longer duration at slightly higher fares.

④ Stopover at Havana on notice to Agent of the Steamship Company before embarkation.

MEXICO CITY JOINT FARES
From New Orleans, La.
Standard Fruit & Steamship Co.

TICKETS ON SALE ALL YEAR

Via Vera Cruz and The Mexican Railway	*Fares in U. S. Currency
New Orleans to Mexico City, One Way	$ 60.30, 30 Days
New Orleans-Mexico City, Round Trip, Steamer both ways	103.70, 6 Mos.
New Orleans-Mexico City and Return, All Expense Tour, Steamer both ways, Hotels and Sight-seeing Trips at Mexico City included	145.00, 12 Days
Chicago to Mexico City and Return, Rail-Water Circle Tour, Summer Tourist, limit Oct. 31	116.78
From Chicago, Ill., to Mexico City, R.T., Rail-Water Circle Tour, one way by S.S. from New Orleans, the other way by Railroad	135.55, 12 Mos.

Notes and Symbols

Sailings (subject to change) from New Orleans, Louisa-Piety St. Wharf, Weekly. Weekly sailings from Vera Cruz.

Stateroom Reservations: Apply to the General Passenger Department, Standard Fruit & Steamship Co., No. 140 Carondelet St., New Orleans, or to the nearest Agency of the Company.

Stopovers—Liberal stopovers are allowed on all tickets within final limits thereof.

***General Notes. Fares subject to change**

Fares shown are minimum first class fares. They include berth in first cabin minimum-fare stateroom, also meals, on steamers while at sea. Superior accommodations are subject to the payment of additional charge therefor.

STOPOVERS are allowed in the United States and in Mexico on going or return trip, or both, subject to regulations of the applicable Tariffs.

ASK FOR THIS NEW FOLDER
Describing LOW-COST

- **Side Trips Mexico City to Cordoba, Orizaba, Puebla, Vera Cruz, etc.**
- **Mexico City Round Trip All Year, Winter and Summer Tourist Fares**

Apply to any Authorized Tourist Agency or to The Mexican Railway Agencies at

140 So. Dearborn St. Chicago.

76 Beaver St. New York.

General Information

Notes:

1 SPECIAL NOTICE—This folder is for public information. The right to change rates or regulations, and to deviate from or change time-table figures, without previous notice is reserved.

STANDARD TIME—Mexico City Standard Time is used throughout this folder. The time is shown in two series of figures. From 12:01 A. M. to 12:00 noon light-face type is used. From **12:01** P. M. to **12:00** night dark-face type is used.

In all cases, unless otherwise stated, the time given is leaving time.

3 PURCHASE OF TICKETS—Ticket offices at important stations are open in time to permit the purchase of tickets before departure of trains. Passengers should buy tickets before boarding trains to avoid payment of extra train fares.

4 REDEMPTION OF TICKETS—Passengers who cannot use their tickets should apply within thirty days from date thereof to the General Freight & Passenger Agent for refund of their redemption value, after which time they will have no redemption value.

5 LIMIT OF TICKETS—Local tickets are good only for continuous passage starting on date of sale and without stopovers.

One-way coupon tickets will be honoured within limit.

Tourist Round-trip coupon tickets will be honoured on either going or return trip within final limit, during which holders will be allowed to make stopovers at intermediate points. Unless otherwise provided for in the tariff regulations, the return trip must be completed to original starting point prior to midnight of the date of final limit.

6 TICKETS ARE NON-TRANSFERABLE—and if presented by other than the original purchasers they will be lifted and full fare collected.

7 CHILDREN—Children will be carried on this line, if accompanied by parent or adult guardian holding transportation of similar description and class, under the following conditions—

Under 5 years.....Free of charge
5 and under 12 years.....One-half fare
12 years and over.....Whole or full fare

8 LOST TICKETS—The Company is under no obligation to give other tickets in place of those which may be lost or stolen, nor to allow passengers to ride free on account of same. Passengers should notify train inspector or conductor of such losses and pay their fare to him or purchase another ticket when so requested. Inspector, conductor or ticket agent will issue receipt for the fare paid. Such receipt should be promptly forwarded to the General Freight & Passenger Agent, with explanation of the circumstances, and if the ticket is found or recovered (unused) the additional fare paid will be refunded.

9 ADJUSTMENT OF FARES—In case of disagreement with train inspector, conductor or ticket agent, passengers should pay the fare required, take receipt therefor, and refer the receipt with explanation to the General Freight & Passenger Agent promptly for investigation. Employees are governed by the Company's rules in such matters and they are not permitted to exercise personal discretion therein.

10 SLEEPING CARS AND SALOON OBSERVATION-DINING CARS—Passengers holding first class railroad tickets may ride in sleeping cars and saloon observation cars and then only when they are, also, in possession of special tickets for reserved accommodations in such cars.

11 TICKETS ARE NON-INTERCHANGEABLE—Tickets between Mexico City, Pachuca, Puebla, Vera Cruz, or between other points, reading via other railway lines are not valid for transportation via the Mexican Railway and train inspectors or conductors will collect full fares from passengers presenting such tickets.

Interline Through Tickets

12 Ask Coupon Ticket Agent for ticket "VIA THE MEXICAN RAILWAY—THE ELECTRIFIED LINE VIA ORIZABA—The Rail Trip of A Thousand Wonders." The Mexican Railway is the only standard gauge line between Vera Cruz, Mexico City, Pachuca and Puebla. It is the only line operating double daily service of through Sleeping Cars and Observation-Dining Cars in each direction between Vera Cruz and Mexico City.

13 STEAMSHIP TICKETS, RAIL-WATER CIRCLE TOUR TICKETS AND FARES—Interline steamship fares quoted herein are for minimum first class fare accommodations on the steamers; they include first-cabin stateroom berth and meals on steamers while at sea. If superior stateroom accommodations are desired on the steamers additional fare will be collected by the ticket agent of the steamship line or by the purser.

14 GOVERNMENT PASSPORTS, LANDING REGULATIONS AND TAXES—Fares for and conditions of International transportation are subject to compliance by the holders thereof with the current laws and regulations of the respective Governments in respect of Passports, Immigration or other Certificates, Tourist Identification Cards and the additional payment by them of Government taxes or fees, if any, for Landing Permits and for Permits to Depart from one country to another. Such laws, regulations and fees are subject to change from time to time and passengers should make inquiry regarding them from agents of the interested steamship companies. Fares quoted herein for tickets from Mexico and Cuba do not include Government taxes.

Baggage Regulations

Notes:

15 CHECKING—Baggage will not be checked unless passenger presents proper railway transportation. Baggage which is not securely fastened or locked will not be checked.

16 FREE ALLOWANCE—Baggage consisting of personal effects and toilet articles necessary for the purposes of the journey, when in suitable trunks, valises or other locked containers, will be checked free under the following conditions:

Free Allowance on Each Whole Ticket	Kilograms	Pounds
On local tickets issued in Mexico, 1st class.....	60	132
On local tickets issued in Mexico, 2nd class.....	30	66
On interline through tickets of issue by lines in foreign countries for combined railway and steamship transportation, 1st class.....	90	200

One-half of these baggage allowances will be checked free on each HALF ticket of the respective classes for a child.

Each passenger is permitted to carry in coaches a maximum of 55 pounds of hand baggage not exceeding 26 inches in length and 16 inches in width and so placed in the coach that no inconvenience will be caused to other passengers thereby.

Hand baggage in sleeping cars and saloon observation coaches restricted to pieces which can be conveniently placed in the berth, or stowed under the seat.

CAUTION—To insure the forwarding of baggage on the same trains by which passage is taken, it should be delivered at stations at least thirty minutes before the advertised time for departure of trains. It is necessary to present passage tickets to Station Baggage Master when baggage is checked.

BAGGAGE FROM AND TO THE UNITED STATES, CANADA, ETC.—Outward bound baggage may be rechecked at Vera Cruz after inspection by the Mexican Customs officers of the Port.

Inward bound baggage may be rechecked after inspection by the Mexican Customs officers at Vera Cruz. Or, at Vera Cruz baggage destined to Mexico City may be entered and checked "In Bond" for inspection by the Customs officers at Mexico City.

All dutiable articles should be so declared on blanks which will be furnished by the Pursers of steamers or by the Customs officers.

17 STORAGE—Storage on baggage will be charged at the rate of 25 centavos daily for 132 pounds or fraction thereof, if unclaimed within two days following the date of its arrival. Maximum charge $3.30 for storage of each package.

18 LOST ARTICLES—In case articles are left on trains or at stations, communicate at once with the General Freight and Passenger Agent at Mexico City, giving full particulars. No responsibility is assumed for unchecked articles left in stations or cars.

19 DOGS—Are not allowed in passenger coaches. Dogs in crates, or provided with collar and chain and check showing owner's name, address and destination of railway ticket, may be carried in baggage cars upon payment of 25 centavos for 100 kilometres or fraction thereof; 50 centavos for greater distances up to 200 kilometres; 75 centavos for greater distances up to 300 kilometres; one peso, maximum charge, for distances over 300 kilometres. Rates quoted are for each dog. Not more than two dogs belonging to a passenger holding a railroad ticket will be so carried in baggage service on the same train.

20 **Express Service** on all lines of the Mexican Railway is efficiently operated by the well and favourably known **Wells Fargo & Co. Express S. A**

Exchange of Money

In the smaller towns money of Mexican currency is necessary. The circulation of foreign paper and silver money is prohibited by law. Passengers entering Mexico may exchange United States and other foreign currencies for Mexican money at any bank or exchange office in Vera Cruz. The many banks at Mexico City offer most favourable exchange rates. Passengers leaving Mexico are required to exchange their Mexican gold coins as the exportation thereof is prohibited by law.

Travellers' Cheques issued by banks and express companies are accepted in all of the larger cities in Mexico where their use is understood.

TOURISTS' LETTERS AND TELEGRAMS—Tourists who are not certain of their itineraries or their hotel address are invited to have their letters and telegrams directed to them in care of General Agent, Mexican Railway Company, Avenida Cinco de Mayo No. 18 Mexico City, D. F., Mexico. Letters and telegrams so directed will be held until called for; or they will be reforwarded by our General Agent upon written request of the addressees.

Officials and Agents of the Traffic Department will be pleased to plan trips, quote fares and furnish all other desired information.

It is our ambition to serve the public. Constructive criticism and suggestions are welcomed and they will be given deserved consideration by the undersigned and by the representatives listed on following pages.

RAFAEL M. MONDRAGON General Freight & Passenger Agent.

Foreign Passenger and Freight Traffic—*Connexions at Vera Cruz*

Steamship Companies reserve the right to change or to depart from dates of sailings.

To Vera Cruz from American Ports

FROM	STEAMSHIP COMPANIES	SAILINGS	SERVICES
NEW YORK (a)	New York & Cuba Mail S.S. Company†	Weekly	Passengers & Freight
NEW ORLEANS (a)	Standard Fruit & S.S. Co. (*Vaccaro Line*), Agents	Weekly	Passengers & Freight

†New York & Cuba Mail S.S. Co. steamers outward and homeward call at Havana weekly for Passengers and Freight.

(a) Through Bills of Lading Issued to All Points

Through Bills of Lading are issued by these Steamship Lines to Mexico City, Pachuca, Puebla and to all other points on the Mexican Railway via Vera Cruz.

Through freight rates will be quoted from all points in the United States to Mexico City and other points on The Mexican Railway via New York or via New Orleans and Vera Cruz on application to traffic representatives of this company; names and addresses are shown below.

PACKING—DOMESTIC PACKING IS ACCEPTABLE to our steamship connections, handling being carefully performed at Vera Cruz, directly from ship to railway cars or wharf—NO LIGHTERAGE. Pack goods securely. Iron strapping is cheaper and more effective than heavy boxing.

BANK DRAFTS AGAINST BILLS OF LADING—Shippers' drafts against original B/L issued by initial rail carriers or by Steamship Companies, may be negotiated through the banks.

To Vera Cruz from Havana, Cuba

FROM	STEAMSHIP COMPANIES	SAILINGS	SERVICES
HAVANA	New York & Cuba Mail S.S. Company	Weekly	Passengers & Freight
HAVANA	Various steamship services en route between European ports and Vera Cruz—refer to opposite column.	As indicated	Passengers & Freight

To Vera Cruz from European Ports

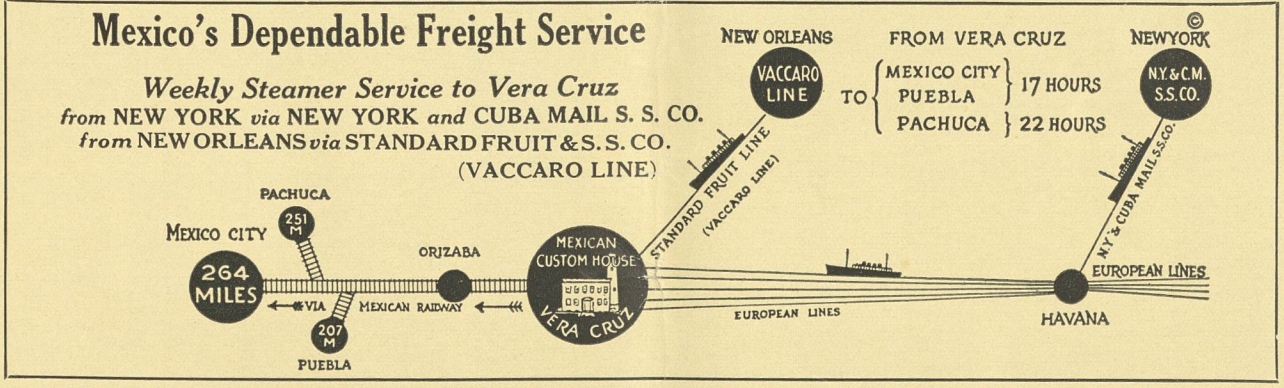
STEAMSHIP COMPANIES AND PORTS OF CALL (*Alphabetically Arranged*)	Cia Transatlantica Espanola (Spanish Line)	Cie. Generale Transatlantique (French Line)	Hamburg-American Line Norddeutscher Lloyd (German Lines) Joint Service	Holland-American Line (Dutch Line)	Leyland Line Harrison Line (British Lines) Joint Service	"Italia" Sociedad Anonima de Navegacion (Italian Line)	Swedish-American Wilhelmsen Lines Joint Service
Sailings	Monthly	Monthly	Fort-nightly	Monthly	Every 3 weeks	Monthly	Monthly
Calling at Havana..	C	C-F	C	C	....	C-F	C-F
ANTWERP	....	....	C	C	....	....	....
BARCELONA	C	....	....	....	....	C	....
BILBAO	C	....	....	....	....	....	....
BREMEN	....	....	C	....	....	....	....
CADIZ	C	....	....	....	....	C	....
CORUNA	C	C-F	....	....	....	....	....
DUNKIRK	....	....	....	....	....	....	....
GENOA	....	....	....	....	....	C	....
GIJON	C	C-F	....	....	....	....	....
GLASGOW	....	....	....	....	C-F	....	....
GOTHENBURG	....	....	....	....	....	....	C-F
HAMBURG	....	....	C	....	....	....	....
HAVRE	....	....	C	....	....	....	....
LAS PALMAS	....	....	....	....	....	C	....
LEGHORN	....	....	....	....	....	C	....
LIVERPOOL	....	....	....	....	C-F	....	....
MALAGA	C	....	....	....	....	C	....
MARSEILLE	....	....	....	....	....	C	....
NAPLES	....	....	....	....	....	....	....
OSLO	....	....	....	....	....	....	C-F
PLYMOUTH	....	....	....	....	....	....	....
ROTTERDAM	....	....	....	C	....	....	....
SANTANDER	C	C-F	....	....	....	....	....
ST. NAZAIRE	....	C-F	....	....	....	....	....
SOUTHAMPTON	....	....	C	....	....	....	....
VALENCIA	C	....	....	....	....	C	....
VIGO	C	C-F	....	....	....	....	....

C—Indicates call for Passengers and Freight.
C-F—Indicates call for Freight only.

SHIPPERS' NOTE—Shippers are invited to apply to our traffic representatives for through freight rates, directions regarding preparation and disposition of shipping documents, likewise for information regarding industrial opportunities in Mexico.
Vera Cruz is the Nearest Port of Entry to Mexico City, Pachuca and Puebla.

Mexico's Dependable Freight Service

Weekly Steamer Service to Vera Cruz
from NEW YORK *via* NEW YORK *and* CUBA MAIL S. S. CO.
from NEW ORLEANS *via* STANDARD FRUIT & S. S. CO.
(VACCARO LINE)



THE MEXICAN RAILWAY CO., Ltd.

C. TENNANT, Secretary, 1 Broad Street Place, London, E.C. 2.

CHICAGO—140 So. Dearborn St.
W. F. Paton, *General Agent*, F. R. Kolb, *Commercial Agent*

NEW YORK—76 Beaver St.
J. F. Cullen, *General Agent*, T. J. Reddy, *Commercial Agent*

Offices in Europe

LIVERPOOL—Mersey Chambers
F. Bower & Co., Agents

GLASGOW—21A Bath St.
F. Bower & Co., Agents

ANTWERP—Canal des Brasseurs, 15
Aug. Bulcke & Co., Agents

HAMBURG—Raboisen, 5-11
Theodor & F. Eimbcke, Agents

BREMEN—Postfach 3
J. H. Bachmann, Agent

Offices in Mexico

MEXICO, D. F.—Ave. Cinco de Mayo 18
J.F. Lecanda, General Agent
Jose Mateos and A. F. Herrera, Commercial Agents

PUEBLA—Estacion F. C. Mexicano
S. Sobreyra, Commercial Agent

VERA CRUZ—Ave. Independencia, 25
J.T. Gutierrez, General Agent

GENERAL OFFICES—Mexico, D. F., Buenavista Station, Apartado (P. O. Box 68 Bis)

J. D. W. HOLMES, General Manager

RAFAEL M. MONDRAGON, General Freight & Passenger Agent

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The Mexican Railway

VERA CRUZ ROUTE

The Mexican Railway

VERA CRUZ ROUTE

19

MEXICO CITY - PACHUCA - PUEBLA
ORIZABA - CORDOBA - VERA CRUZ

Standard Gauge Short Line
ELECTRIFIED OVER THE MOUNTAINS

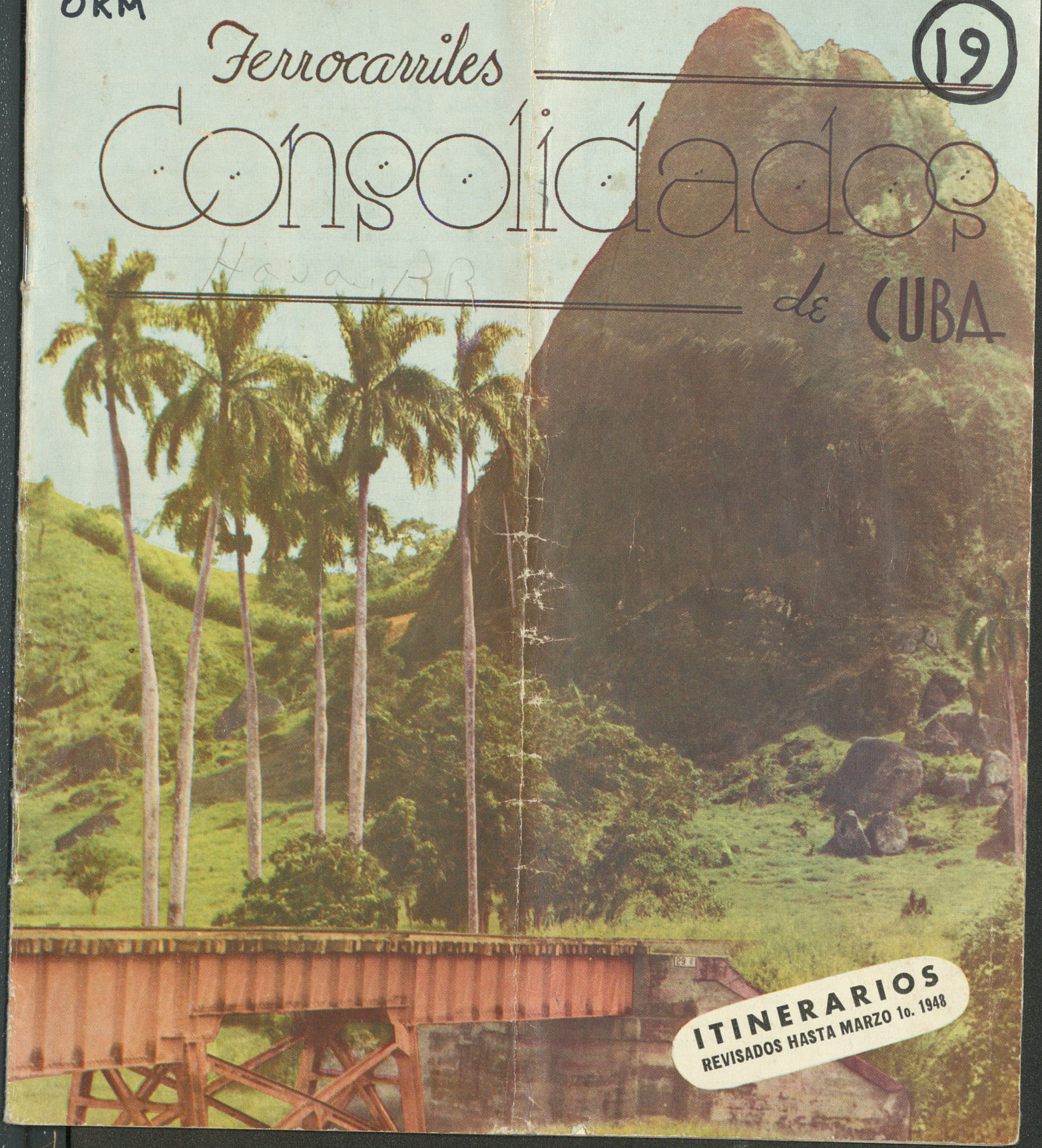
1938

1938

OKM

19

Ferrocarriles Consolidados de CUBA



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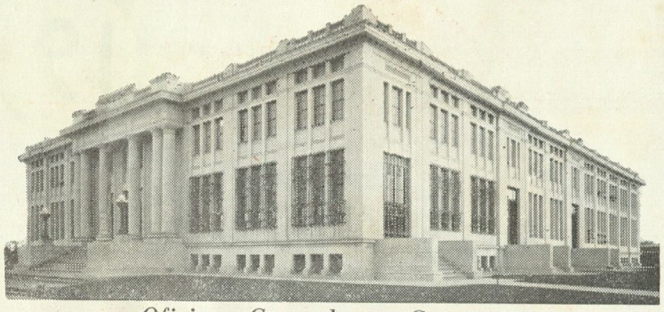
REVISADOS HASTA MARZO 1o. 1948



Oficinas Generales en Camagüey

Property of the
RAILWAY & LOCOMOTIVE HISTORICAL SOC.

Directorio Oficial

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EN CAMAGUEY

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INFORMACION A LOS VIAJEROS

DESPACHO DE BILLETES: El despacho de billetes comenzará media hora antes de la salida del tren, excepto en las estaciones principales y en las de contacto entre líneas que combinen, en las cuales comenzará una hora antes de la salida del tren. Los billetes que expende esta Empresa son válidos únicamente en la fecha y para el tren que se despachen.

NIÑOS: Los niños menores de cinco años que no ocupen asiento, no pagarán pasaje. Los niños comprendidos en la edad de cinco a doce años inclusive, pagarán la mitad del precio de los adultos Cada dos niños tendrán derecho a un asiento.

ANTES DE SUBIR AL TREN, los viajeros deben cerciorarse con el Expendedor o Jefe de Estación, o con el Conductor o el Retranquero, de que el tren que van a tomar se detiene en el punto de destino a que se dirijan, pues hay estaciones en las cuales no hacen parada algunos trenes.

RECARGO. Los viajeros que tomen el tren en estaciones donde exista expendio de billetes, sin proveerse antes de éstos, abonarán al Conductor su importe con un recargo de diez centavos. Cuando el importe del billete sea interior a diez centavos, el recargo será igual al precio del billete.

DISCREPANCIAS: En caso de discrepancia con un Conductor, sobre la clase o el precio del billete vendido; privilegios que existan, etc., los viajeros deben abonar el precio del pasaje y obtener un recibo, refiriendo el caso al Agente General de Tráfico, para lo que proceda. Los Conductores no están autorizados para alterar las reglas y taritas por las cuales se rigen.

REINTEGRO DE BOLETINES: Cuando los viajeros desistieren del viaje, antes o después de la salida del tren, podran obtener el reembolso del importe del billete, en el mismo despacho en que haya sido adquirido. Cuando los viajeros tengan que dejar el tren en un luagr anterior al destino que exprese su boletin, el reembolso se hara igualmente por las estaciones o expendios de billetes de los lugares donde determinen quedarse. En tales casos, la reclamacion del reintegro debe hacerse inmediatamente después de la llegada del tren en que viajan. Si el lugar anterior al expresado en el billete, en que el viajero resuelve quedarse, es estación sin jefe, el conductor del tren lo hara constar así en el recibo que entregara al viajero y este podra obtener el reintegro presentandolo en la estacion inmediata posterior al lugar en que hubiere dejado el tren, o remitiendolo, si así lo prefiere, al Agente General de Trafico en Camagüey.

DESPACHO DE EQUIPAJES: El despacho de equipajes se abrirá al mismo tiempo que el de billetes, cerrandose quince minutos antes de la salida del tren que ha de conducirlos, aunque seguirán recibiéndose dentro de los QUINCE MINUTOS siguientes, para ser remitidos a su destino en el próximo tren.

EQUIPAJES GRATIS: Los viajeros provistos de billetes de primera clase a precio entero, tienen derecho al transporte gratis de cincuenta kilogramos de equipajes y al de treinta kilogramos, si los pasajes fueren de segunda clase. Los ninos provistos de billetes a mitad de precio, sólo tendrán derecho a la mitad del peso de equipajes gratis que se concede a los adultos .

BULTOS EN LOS COCHES: Los viajeros pueden llevar consigo, gratis en los coches, los sacos de mano, maletas, paquetes y efectos de cualquier clase —valores inclusive— siempre que limitándose a dos bultos por cada viajero, las dimensiones no excedan de cincuenta decímetros cúbicos, ni el peso de diez kilogramos cada uno, y que por su aspecto y otras circunstancias no ofrezcan inconveniente para los demás viajeros, ni entorpezcan el uso de los asientos y pasillos del coche.

EN LOS COCHES DE SEGUNDA CLASE se permitirá llevar, además, gallos de pelea, cacerías y animales de recreo y adorno, cuando estén contenidos en jaulas, jabas, sacos o cajas, sujetos a las mismas condiciones que se establecen en el párrafo anterior. Los bultos que excedan del número o de las especificaciones anteriores, así como los animales no especificados en las mismas, serán conducidos al coche de Expreso y Equipajes, y se despacharán en la forma que corresponda. En los trenes autorizados para circular desprovistos de coches de equipajes y facilidades para el manejo de mercancías por expreso, no se admitirán más bultos que aquellos que se ajusten a las condiciones establecidas para los que son transportados en los coches de viajeros.

HORARIO DE TRENES. Las horas de llegada y salida de los trenes, que aparecen en este itinerario, se han revisado cuidadosamente; pero no puede garantizarse su exactitud, ni la Empresa se hace responsable de los errores que puedan existir, ni de las consecuencias que resulten de los atrasos.

INFORMATION FOR PASSENGERS

TICKET OFFICES open 30 minutes before departure of trains, except at main stations and junction points where they are opened one hour before train departure. Tickets are good only on the date and train for which they are sold. Passengers should always procure tickets at regular Railroad ticket offices.

CHILDREN under five years of age not occupying seats are carried free. Those of five years and not over twelve years shall pay half fare. Every two children will be entitled to one seat.

BEFORE BOARDING THE TRAIN, passengers should ascertain with the Ticket Agent or Station Master, or with the Conductor or Brakeman, that the train they are taking stops at their destination, because there are certain stations where all trains do not stop.

PASSENGERS boarding trains at stations where tickets are sold, without providing themselves with same, will be charged $0.10 extra on each ticket by the Conductor. When the amount of tickets is less than $0.10, the surcharge will be equal to the price of ticket.

IN THE EVENT of any disagreement with a Conductor regarding the rights, class or price of a ticket, etc., passengers should comply with Conductor's request and obtain a receipt of payment, sending it with their claim to the General Traffic Agent at Camagüey. Conductors have no discretionary power in these matters, being governed by rules and tarifis which they are not authorized to change.

FARE REFUND: Should passengers desist from making the trip before or after departure of train, refund of the cost of fare may be inmmediately requested at ticket office where the purchase was made. When passengers have to leave the train before reaching the destination shown on the ticket, refund may also be requested at the station where they decide to remain. In such cases, the request for refund must be made immediately after the arrival of the train where they have been traveling. If the passenger leaves the train at a flag stop station, the Conductor will issue a receipt to that effect, at the request of the passenger, which will enable him to obtain a refund on the unused portion of his ticket at the next following station or, if he so prefers, from the General Traffic Agent at Camagüey, to whom the receipt should be sent.

BAGGAGE CHECKING: This can be done from the moment tickets are purchased up to fifteen minutes before train departure time. Thereafter baggage will be accepted for despatch on the next train.

FREE BAGGAGE: A full fare first class ticket entitles the passenger to free transportation of 50 kilograms of baggage. Children traveling on half fare tickets are permitted one-half of the amount allowed on a full fare ticket. All baggage, however, must be checked at baggage room according to tickets purchased.

HAND BAGS, PARCELS, ETC.: Passengers may take with them free of charge hand bags, suitcases and personal effects (valuables included), provided their number is not in excess of two parcels per each adult passenger and its dimensions do not exceed fifty cubic decimeters nor ten kilograms of weight each, and that the parcels themselves offer no inconvenience to other passengers or obstruct the use of seats and aisles.

Fighting cocks, pet animals and small dead game, when carried in a proper and convenient form of package, such as, in baskets, cages, bags or crates, will be permitted ONLY in the second class cars.

Parcels exceeding the number, weight and dimensions described above, as well as animals not particularly specified, shall be conveyed in the express-and-baggage cars and despatched accordingly.

Trains authorized to run without baggage cars or facilities to handle merchandise by express will not accept bundles other than under the conditions established in respect of passenger cars.

TIME TABLES: Train hours shown on this folder have been carefully checked, but their accuracy is not guaranteed, and the Company does not accept responsibility for errors or delays, nor consequences resulting therefrom.

TARIFA DE COCHES DORMITORIOS

HABANA A	Asiento	Litera Alta	Litera Baja	Apartado	Salón
Santa Clara	. . . . .	$ 3.76	$ 4.70	$11.62	$15.26
Ciego de Avila	. . . . .	4.48	5.60	12.88	17.08
Camagüey	. . . . .	4.72	5.90	14.14	18.12
Cacocum	. . . . .	5.88	7.10	16.66	20.86
Bayamo	. . . . .	5.96	7.20	17.56	22.12
Manzanillo	. . . . .	6.72	8.20	17.92	22.12
Antilla	. . . . .	6.72	8.20	17.92	22.12
Santiago de Cuba	. . . . .	6.72	8.20	17.92	22.12
SANTA CLARA A					
Ciego de Avila	$ 1.40	$ 3.56	$ 4.70	$11.62	$14.26
Camagüey	1.75	3.56	4.70	11.62	14.26
Cacocum	2.80	4.48	5.60	12.88	17.08
Bayamo	2.80	4.48	5.60	12.88	17.08
Manzanillo	2.80	4.48	5.60	12.88	17.08
Antilla	2.80	4.48	5.60	12.88	17.08
Santiago de Cuba	2.80	4.48	5.60	12.88	17.08
CIEGO DE AVILA A					
Camagüey	$ 1.40	$ 3.56	$ 4.70	$11.62	$14.26
Cacocum	2.10	3.56	4.70	11.62	14.26
Bayamo	2.45	3.64	4.80	11.84	14.46
Manzanillo	2.45	4.48	5.60	12.88	17.22
Antilla	2.45	4.48	5.60	12.88	17.22
Santiago de Cuba	2.45	4.48	5.60	12.88	17.22
CAMAGUEY A					
Cacocum	$ 1.40	$ 3.56	$ 4.70	$11.62	$14.26
Bayamo	1.50	3.56	4.70	11.62	14.26
Manzanillo	1.50	3.56	4.70	11.62	14.26
Antilla	1.50	3.56	4.70	11.62	14.26
Santiago de Cuba	1.50	3.56	4.70	11.62	14.26
BAYAMO A					
Manzanillo	$ 1.40	$ 3.56	$ 4.70	$11.62	$14.26
CACOCUM A					
Antilla	$ 1.40	$ 3.56	$ 4.70	$11.62	$14.26
Santiago de Cuba	1.40	3.56	4.70	11.62	14.26

TARIFA ESPECIAL DE COCHES DORMITORIOS

A los portadores de boletines de primera clase, pagados a precio entero, que adquieran localidades de coches dormitorios, se les cobrarán los precios que a continuación se detallan:

A La Habana, de:	Litera Alta	Litera Baja	Apartado	Salón
Santa Clara	$ 2.52	$ 3.94	$ 8.90	$12.68
Ciego de Avila	2.94	4.46	9.58	13.70
Camagüey	3.36	5.04	10.24	14.70
Cacocum	3.78	6.14	11.68	16.72
Bayamo	4.20	6.72	12.44	17.72
Manzanillo	4.20	6.72	12.44	17.72
Antilla	4.20	6.72	12.44	17.72
Santiago de Cuba	4.20	6.72	12.44	17.72

En adición a estas tarifas se cobra lo que corresponde por los impuestos vigentes.

BILLETES KILOMETRICOS

NUESTROS Billetes Kilométricos proporcionan grandes ventajas a los hacendados, colonos, ganaderos y otras personas que viajen con frecuencia.

Pueden ser adquiridos en cualquiera de las estaciones de estos Ferrocarriles, a los precios y con los períodos de validez que a continuación se expresan:

PRECIOS

Kilómetros	1a. Clase	2a. Clase	Validez
1,000	$18.90	$15.12	4 meses
2,000	36.82	29.40	6 meses
3,000	53.62	42.84	9 meses

Las firmas comerciales o personas que en razón de sus actividades comerciales o industriales, tengan que viajar frecuentemente, pueden adquirir estos Billetes Kilométricos, de 2,000 y 3,000 unidades, para ser utilizados por más de una persona perteneciente a la entidad comercial que lo adquiera, siempre que aparezcan en el talón o cubierta del Billete Kilométrico las firmas de las personas que han de utilizarlo.

Este tipo de Billete Kilométrico, ideal para los viajantes del comercio, tiene los siguientes períodos de validez y

PRECIOS

Kilómetros	1a. Clase	2a. Clase	Validez
2,000	$33.60	$26.88	6 meses
3,000	48.72	38.64	9 meses

En adición a los precios que anteceden, se cobra lo que corresponde por los impuestos vigentes.

Los cupones que forman el Billete Kilométrico se canjearán por el billete de pasaje en los Expendios de las estaciones. Si el portador del Kilométrico toma el tren en una estación con Expendio, sin haberse provisto antes del correspondiente boletín, el conductor del tren lo aceptará previo el pago del recargo de diez centavos. Cuando el importe de los cupones a canjear sea menor de diez centavos, el recargo será igual al importe de los cupones.

Los Jefes de Estación y la Oficina de Tráfico, en Camagüey, proporcionarán gustosamente cualquier otra información sobre la materia.

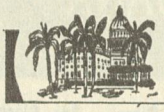
PRECIOS DE PASAJES DE IDA Y VUELTA A LA HABANA

Válidos para el regreso por 60 días

DESDE:	1ra. Clase	2da. Clase
Agabama	$ 8.28	$ 7.00
Aguilar	12.79	10.80
Algarrobo	11.38	9.60
Altagracia	12.05	10.17
Alto Cedro	15.88	13.41
Antilla	16.75	14.14
Auza	16.55	13.96
Báez	8.09	6.83
Baire	15.63	13.20
Baraguá	10.23	8.64
Bartle	13.43	11.33
Bayamo	15.01	12.67
Bayate	16.23	13.69
Cabaiguán	8.45	7.14
Cacocum	15.08	12.73
Camagüey	11.71	9.89
Camajuaní (Norte de Cuba)	7.74	6.53
Candonga	16.22	13.68
Caonao	11.10	9.38
Carmita	7.58	6.40
Casallas	8.04	6.79
Casilda	9.46	7.99
Ceballos (Vía Ciego de Avila)	10.17	8.58
Central Palma	16.33	13.79
Céspedes	10.97	9.26
Ciego de Avila	9.94	8.39
Condado	9.02	7.60
Contramaestre	15.81	13.34
Cristo	16.98	14.33
Cuatro Caminos	12.93	10.92
Cueto	16.17	13.64
Cumbre	7.89	6.65
Cunagua	11.16	9.42
Cupey	14.64	12.36
Chambas	9.51	8.04
Delia	10.43	8.79
Donato	11.32	9.55
Dos Caminos	16.81	14.19
Dumois	16.60	14.01
Edén	10.27	8.66
Estrella	10.92	9.21
Falcón	7.66	6.47
Falla	9.74	8.23
Florencia	9.31	7.86
Florida	11.10	9.38
Fomento	8.35	7.06
Gamboa	13.94	11.77
Gaspar	10.39	8.76
General Carrillo	8.51	7.18
Guamo	14.26	12.04
Guaninao	15.93	13.45
Guasimal	9.38	7.92
Guayacanes	9.63	8.13
Guayos	8.54	7.21
Hatuey	12.55	10.59
Herrera	16.43	13.86
Holguín	15.40	12.99
Iguará	8.80	7.43
Imías	11.91	10.06
Jarahueca	8.63	7.28
Jarocuna	10.95	9.25
Jaronú	11.50	9.71
Jatibonico	9.17	7.74
Jiguaní	15.43	13.03
Jiquí	11.38	9.60
Jobabo	13.41	11.32
Júcaro (Vía Ciego de Avila)	10.39	8.76

DESDE:	1ra. Clase	2da. Clase
Julia	$15.24	$12.86
La Maya	17.21	14.53
Lombillo	11.66	9.84
Lugareño (F. C. Cuba)	12.56	10.61
Lugareño (Norte de Cuba)	12.55	10.59
Mabay	15.20	12.83
Maceo	14.76	12.46
Majagua	9.50	8.02
Mangos de Baraguá	15.96	13.48
Manzanillo	15.89	13.42
Marcané	16.01	13.52
Marchena	12.28	10.36
Martí	12.74	10.76
Meyer	8.90	7.50
Minas	12.31	10.39
Mir	14.50	12.24
Miranda	16.28	13.74
Morón	10.08	8.51
Nuevitas	12.99	10.97
Omaja	14.26	12.04
Palmarito	16.35	13.80
Palma Soriano	16.37	13.82
Palo Seco	13.03	11.00
Paredes	9.22	7.79
Paso Estancia	16.15	13.62
Pastelillo	13.08	11.04
Pastor	14.54	12.28
Patria	10.13	8.55
Perea	9.10	7.67
Piedrecitas	10.86	9.17
Pina (Vía Ciego de Avila)	10.30	8.69
Ramírez	13.58	11.46
Rey	15.45	13 05
Río Cauto	14.40	12.16
Ruspoli (Vía Ciego de Avila)	10.12	8.54
Sabanaso	14.37	12.13
Sancti Spíritus	8.98	7.58
San Germán	15.51	13.10
San Luis	16.70	14.10
Santa Cruz	13.41	11.32
Santa Isabel	11.45	9.67
Santa Lucía	13.13	11.08
Santa Marta	13.22	11.16
Santa Rita	15.33	12.93
Santiago de Cuba	17.26	14.57
Senado	12.35	10.42
Siguaney	8.90	7.50
Silveira (Vía Ciego de Avila)	10.13	8.55
Sola	12.08	10.20
Sopimpa	8.63	7.28
Tabor	10.95	9.25
Taguasco	8.97	7.56
Tayabacoa	9.50	8.02
Trinidad	9.38	7.92
Tuinucú	8.82	7.45
Tunas de Zaza	9.66	8.16
Tunas, Las	13.81	11.65
Veguita	15.45	13.05
Velasco	10.79	9.11
Venegas	9.02	7.60
Vertientes	12.33	10.41
Violeta	10.58	8.94
Woodin (Esmeralda)	11.20	9.45
Xavier	16.05	13.55
Yara	15.56	13.15
Zaza del Medio	8.75	7.39
Zulueta del Sur	8.15	6.87

Estos precios incluyen los impuestos vigentes



CUBA

has, in addition to its gay and beautiful Capital of Havana, many other attractive cities worth visiting, which offer to the traveler coming to our shores for relaxation, restful quietude in an atmosphere of historical reminiscence. The noise of Havana's urban traffic, similar to that of other great cities, affords a striking contrast with the quiet and easy going routine of inland towns, where old fashioned habits of life fit perfectly in the quaint surroundings that retain the colonial flavor of bygone days. Outstanding among such historical places we find: Trinidad, Camagüey Bayamo and Santiago de Cuba, which have enchanted every person that has been fortunate to visit them.

CAMAGUEY

The city of Camagüey, located on a plain 325 feet above sea level, is a town of colonial style where modern urban progress is slowly substituting the work of bygone centuries. Among the principal attractions offered to the visitor are its old churches, two of which, La Soledad and Las Mercedes, are very interesting from the architectural and artistic point of view. Las Mercedes holds a large size copy of the Holy Sepulchre in solid silver of inestimable value, being the only piece of its kind in America. The historical Casino Campestre, one of the most beautiful parks in Cuba; the equestrian statue of General Ignacio Agramonte, in the park that bears his name; the house where Gertrudis Gómez de Avellaneda, greatest of contemporary female poets, was born; the modern Vigía development at the end of which rises a monument to the martyrs of independence; the Base-Ball Stadium and the Boxing Arena, are likewise worthy of attention. The Benemérita Sociedad Popular de Santa Cecilia, the Club Atiético Ferroviario and the Camagüey Tennis Club are remarkable centers of intellectual and physical culture, membership of the latter being exclusively girls.

The building destined for the Ignacio Agramonte Museum, formely occupied by Hotel Camagüey, becomes particularly suggestive to the visitor's eyes being a century-old building originally constructed for Spanish army barracks on a five acre lot, where its ample corridors impressing in their majestic quietude and the scent of tropical flowers drifting from the gardens help to complete the romantic atmosphere that permeates the whole place, which also has a poetic roof garden in the midst of its inner courts or "patios", surrounded by flower vines that lend enchantment and beauty to that spot.

TRINIDAD

is one of the five Villas that in the past constituted the province of Santa Clara. Being one of the oldest towns in Cuba, Trinidad retains its colonial architectural style and old traditions and legends still live in that placid ancient spot. The railroad running to that city goes through picturesque Trinidad valley, crossing the Agabama river over the highest viaduct in Cuba (164 feet high). The scenery along the Agabama and Tayaba river basins is considered among the most beautiful in Cuba.

The Christ of Vera Cruz, found in one of the principal churches in Trinidad is a traditional relic venerated by all the townspeople. The originality of its cobblestone street pavement and the attractive pure colonial style of its houses, make of this quaint town something unique in historical interest.

A modern well paved highway leads from the town to the splendid sanatorium under construction in the mountains at Tope de Collantes for persons affected with tubercuosis. The sanatorium stands at an altitude of 2,755 feet and is considered one of the best in the world.

SANTIAGO de CUBA

The most important engagements of the Spanish-American War were fought in the vicinity of Santiago de Cuba and the battered ruins of fortresses that still remain are mute witnesses of the bloody action that took place nearly 50 years ago.

The battle fields, the Peace tree, the park at San Juan hill and other historical points can be visited by automobile over good roads from Santiago de Cuba.

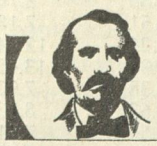
The environs of Santiago are noted for their beautiful scenery, among which Boniato Summit (Puerto Boniato), located at an elevation fo 1526 feet, is outstanding for the magnificent view it affords of the city and bay. Puerto Boniato stands on top of a hill in the mountain range that encircles Santiago and may be reached by a highway that winds upward along the mountain side, disclosing wonderful scenic pictures at every turn; it was constructed under the administration of General Leonard Wood and is considered as a bold engineering feat. Before ascending, the highway runs through quaint little villages where the wealthy inhabitants of Santiago have summer residences surrounded by flower gardens in the midst of dense foliage and tropical vegetation.

Another interesting drive from the historical point of view is that to Morro Castle, a three century old fortres that guards the entrance to the port of Santiago and affords a marvelous uninterrupted "vista" of the blue Caribbean from its ruined battlements. Near the Morro lies the beautiful little village of Ciudamar, with its gay colored houses perched among the crags, resembling sea gull nests; a short distance towards the interior of the bay rises Cayo Smith, a summer residential bathing resort.

Worthy of attention within the city, the visitor will find: the Cathedral, of secular architectural style and full of historical reminiscences; the Bacardí Museum and Library, where patriotic relics are kept; the Cementery, where the remains of Martí, apostle of Cuban liberties, lie buried, as well as those of many other conspicuous patriots; the Charco Mono dam and reservoir, that furnishes the city water supply; and Michaelssen's Alameda, a beautiful drive along the bay front. Also within six kilometers of the city there is a nine-hole Golf Course.

A tour that should not be missed by any visitor is that to El Cobre Sanctuary, the holy shrine of Cuba's patron Madonna, the Virgen de la Caridad del Cobre; this Sanctuary is in the town of El Cobre among the hills, toward which a constant pilgrimage of devouts is always on the way.

Santiago de Cuba has good hotels, among which is the "Casa Granda", a modern and comfortable hotel consisting of four stories and entirely fire and earthquake proof; from its handsome roof garden a magnificent view of the bay surroundings may be obtained.



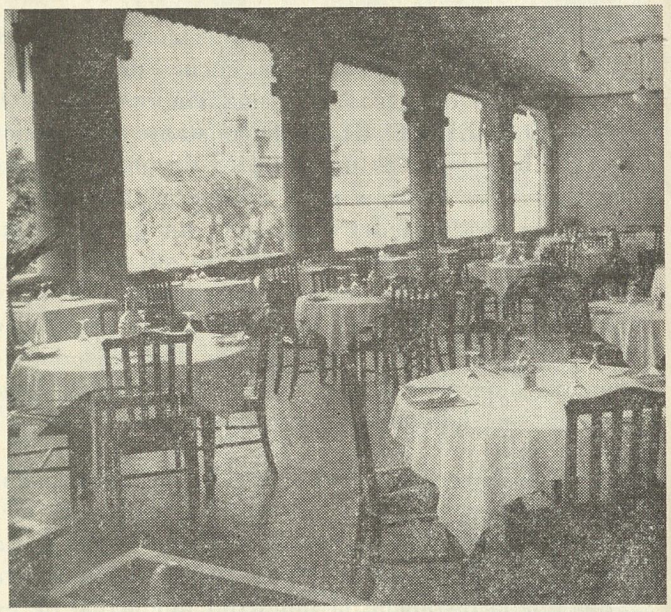
BAYAMO

birthplace of Aguilera, father of the country, and of the martyr poet Zenea, Bayamo stands for patriotism and sacrifice. Some charred ruins of the fire that swept over the town when the inhabitants burned their own homes and properties before taking the field at the curbreak of the Ten Year War against Spanish domination in 1868, are still kept here as historic relics. The Cuban National anthem was written at Bayamo by Perucho Figueredo under fire of attacking Spanish forces; the patriotic words and music having been inspired by actual feats of heroism witnessed in action.

Bayamo has been declared National Monument by Cuban Congress, and is constantly visited by foreigners who, interested in the Cuban struggle for liberty, wish to see the place where the revolutionary spark was kindled.

Hotel CASA GRANDA

Santiago de Cuba



CORTESIA señorial por sirvientes experimentados, y suculencia en comidas presentadas de conformidad con el gusto más exigente, son pormenores que han hecho singular el famoso comedor nuestro.

EN nuestras habitaciones se ha logrado imprimir el mayor confort y el ambiente más familiar tratando de hacer ligera la separación de esos insuperables detalles que se disfrutan en la propia casa.

Precios de Habitaciones

Interior con baño general:	
1 persona	$ 1.75
2 personas	3.00
Interior con baño privado:	
1 persona	$ 3.00
2 personas	5.00
Exterior con baño privado:	
1 persona	$ 4.00 y 5.00
2 personas	6.00 y 7.00
Departamento (No. 301) con recibidor y baño privado:	
1 persona	$ 7.00
2 personas	10.00
Departamento (No. 401) con recibidor y baño privado:	
1 persona	$10.00
2 personas	15.00

COMIDAS A LA CARTA

Nota: Por cada persona adicional, se cobra $1.25 en habitación con baño general y $1.75 en habitación con baño privado.

PRODUCCIÓN AZUCARERA

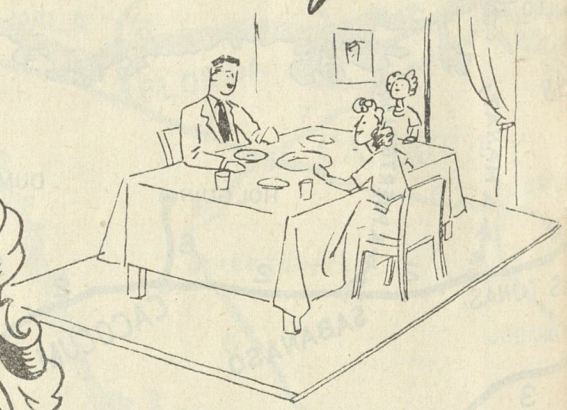
AÑOS	TONELADAS (2,240 lbs.)
1853	322,000
1854	374,000
1855	392,000
1856	358,000
1857	355,000
1858	385,000
1859	536,000
1860	447,000
1861	466,000
1862	522,000
1863	507,000
1864	575,000
1865	620,000
1866	612,000
1867	597,000
1868	740,000
1869	726,000
1870	726,000
1871	547,000
1872	600,000
1873	775,000
1874	681,000
1875	718,000
1876	510,000
1877	520,000
1878	533,000
1879	670,000
1880	530,000
1881	403,764
1882	595,837
1883	460,307
1884	553,087
1885	651,967
1886	731,725
1887	646,578
1888	656,719
1889	560,333
1890	632,368
1891	819,760
1892	976,782
1893	815,894
1894	1,054,214
1895	1,004,246
1896	225,221
1897	212,051
1898	305,543
1899	335,668

AÑOS	TONELADAS (2,240 lbs.)
1900	300,073
1901	635,856
1902	850,181
1903	998,873
1904	1.040,228
1905	1.163,258
1906	1.178,749
1907	1.427,673
1908	961.958
1909	1.513,362
1910	1.804,349
1911	1.843,451
1912	1.895,984
1913	2.428,537
1914	2.597,732
1915	2.608,914
1916	3.034,272
1917	3.054,997
1918	3.473,184
1919	4.009,734
1920	3.735,425
1921	3.934,297
1922	4.033,455
1923	3.645,967
1924	4.112,699
1925	5.189,346
1926	4.932,095
1927	4.508,600
1928	4.041,856
1929	5.156,278
1930	4.670,973
1931	3.120,796
1932	2.604,292
1933	1.994,238
1934	2.255,869
1935	2.537,951
1936	2.556,937
1937	2.974,584
1938	2.975,949
1939	2.723,813
1940	2.779,350
1941	2.406,954
1942	3.345,056
1943	2.843,077
1944	4.174,041
1945	3.454,983
1946	3.940,728
1947	5.677,238

INGENIOS situados en el territorio de estos ferrocarriles

	Estación de Ferrocarril más próxima
PROVINCIA DE LAS VILLAS	
Carmita	Carmita.
Escambray	Agabama.
La Vega	Guayos.
Santa Isabel	Fomento.
Trinidad	Iznaga.
Tuinucú	Tuinucú.
Vitoria	Iguará.
PROVINCIA DE CAMAGUEY	
Adelaida	Falla.
Agramonte	Florida.
Algodones	Guayacanes.
Baraguá	Baraguá.
Céspedes	Céspedes.
Cunagua	Cunagua.
Elia	Santa Lucía.
Estrella	Estrella.
Florida	Florida.
Francisco	Santa Lucía.
Jagüeyal (no muele)	Carolina.
Jaronú	Jaronú.
Jatibonico	Jatibonico.
Lugareño	Lugareño.
Macareño	Santa Marta.
Morón	Pina.
Najasa	Hatuey.
Patria	Patria.
Punta Alegre	Falla.
Santa Marta	Santa Marta.
Senado	Senado.
Siboney	Marchena.
Stewart	Silveira.
Velasco (no muele)	Velasco.
Vertientes	Vertientes.
Violeta	Violeta.
PROVINCIA DE ORIENTE	
Algodonal	Algodonal.
Altagracia (no muele)	Oriente.
Alto Cedro	Marcané.
América	América.
Báguanos	Cueto.
Borjita	Dos Caminos.
Boston (Macabí)	Dumois.
Cacocum	Palomo.
Cupey (no muele)	Cupey.
Estrada Palma	Yara.
Hatillo (no muele)	Hatillo.
Jobabo	Jobabo.
Mabay	Mabay.
Maceo	Maceo.
Manatí	Las Tunas.
Miranda	Miranda.
Palma	Central Palma
Preston	Herrera.
Río Cauto	Río Cauto.
San Germán	San Germán
Santa Ana	Auza.
Sofía	Yara.
Tacajó	Dumois.
Unión	San Luis.

No extrañará su hogar



Los coches ESCAMBRAY y TURQUINO, que circulan incorporados a los trenes UNO y DOS, están dotados con todos los detalles de que dispone este servicio en los mejores ferrocarriles del mundo.

Concesionarios

ALVAREZ Y CABEZAL

HABANA — SANTA CLARA — CAMAGUEY

CUADRO 1

LEASE HACIA ABAJO

Motor Nº 155	Vapor No. 3	Motor Nº 161	Vapor No. 19	Vapor No. 21	Motor Nº 159	Vapor No. 1	Motor Nº 157	Motor Nº 141
↓	A.M.	↓	↓	↓	↓	P.M.	↓	↓
...	8.10	...	...	...	...	10.15	...	...
...	10.15	...	...	...	...	12.32	...	...
...	11.05	...	...	...	...	1.28	...	...
...	11.34	...	...	...	...	2.02	...	...
...	12.16	...	...	...	...	2.49	...	...
...	2.12	...	...	...	...	4.52	...	...
...	2.58	...	...	...	...	5.50	...	...
...	...	...	A.M.	A.M.	...	...	...	...
...	3.25	...	11.55	10.05	...	6.15	...	...
...	f 3.35	...	f 12.08	f 10.18	...	...	...	...
...	f ----	...	f ----	f ----	...	...	...	...
...	f 3.46	...	f 12.18	f 10.29	...	...	...	...
...	f ----	...	f ----	f ----	...	...	...	...
...	f ----	...	f ----	f ----	...	...	...	...
...	3.55	...	12.28	10.39	...	...	...	...
...	f ----	...	f ----	f ----	...	...	...	...
...	f ----	...	f ----	f ----	...	...	...	...
...	4.10	...	12.44	10.54	...	6.57	...	...
...	...	...	P.M.	...	...	...	...	...
...	...	...	Pasa	...	...	...	...	...
...	4.15	...	al	11.00	...	7.03	...	...
...	f 4.32	...	cuadro	f 11.17	...	...	...	...
...	f ----	...	"4"	f ----	...	...	...	...
...	f 4.43	...	...	f 11.29	...	...	...	...
...	f ----	...	...	f ----	...	...	...	...
...	f 4.54	...	...	f 11.41	...	...	...	...
...	5.03	...	...	11.51	...	7.43	...	...
Viene de cuadro "5"	5.12	...	...	12.01	...	7.51	Viene de cuadro "5"	...
	f ----	...	...	f ----	...	...		...
	f ----	...	...	f ----	...	...		...
	f ----	...	...	f ----	...	...		...
	5.27	...	...	12.18	...	8.06		...
P.M.	...	...	...	...	...	...	A.M.	...
9.03	5.34	...	...	12.28	...	8.14	6.40	...
f ----	f ----	...	...	f ----	...	...	f ----	...
9.14	5.45	...	...	12.39	...	...	6.51	...
9.23	5.56	...	...	12.48	...	8.33	7.00	...
f 9.33	f 6.01	...	...	f 12.53	...	...	f 7.09	...
f ----	f ----	...	...	f ----	...	...	f ----	...
9.46	6.15	...	...	1.07	...	8.50	7.21	...
f ----	f ----	...	...	f ----	...	...	f ----	...
f ----	f ----	...	...	f ----	...	...	f ----	...
f 10.02	f 6.30	...	...	f 1.22	...	...	f 7.36	...
f ----	f ----	...	...	f ----	...	...	f ----	...
10.11	6.39	...	...	1.31	...	9.10	7.45	...
10.22	6.50	...	...	1.41	...	f 9.19	7.56	...
f 10.32	f 6.59	...	...	f 1.56	...	...	f 8.07	...
10.45	7.10	...	...	2.06	...	9.37	8.20	...
P.M.	...	P.M.	...	...	P.M.	...	...	A.M.
...	7.18	5.55	...	2.16	12.15	9.43	8.35	5.30
...	...	f ----	...	...	f ----	...	f ----	f ----
...	f 7.30	f 6.07	...	f 2.28	f 12.27	...	f 8.47	f 5.42
...	...	f ----	...	f ----	f ----	...	f ----	f ----
...	7.40	6.17	...	2.39	12.37	10.03	8.57	5.52
...	...	f ----	...	...	f ----	f ----	f ----	f ----
...	...	f ----	...	...	f ----	f ----	f ----	f ----
...	7.59	6.28	...	2.53	12.55	10.17	9.08	6.02
...	f 8.11	f 6.41	...	f 3.06	f 1.07	...	f 9.21	f 6.15
...	f ----	f ----	...	f ----	f ----	...	f ----	f ----
...	...	f ----	...	...	f ----	...	f ----	f ----
...	f 8.24	f 6.54	...	f 3.19	f 1.21	...	f 9.38	f 6.29
...	...	f ----	...	...	f ----	...	f ----	f ----
...	8.32	7.03	...	3.28	1.30	f 10.46	9.47	6.38
...	f 8.37	f 7.08	...	f 3.33	f 1.35	...	f 9.52	f 6.43
...	8.42	7.18	...	3.39	1.40	10.55	9.57	6.48
...	...	f ----	...	...	f ----	...	...	f ----
...	8.51	7.28	...	3.49	1.50	11.03	10.07	6.58
...	8.55	7.30	...	3.54	1.55	11.07	10.09	7.03
...	f ----	f ----	...	f ----	f ----	...	f ----	f ----
...	f 9.07	f 7.43	...	f 4.07	f 2.08	...	f 10.22	f 7.16
...	f ----	f ----	...	f ----	f ----	...	f ----	f ----
...	...	f ----	...	f ----	f ----	...	f ----	f ----
...	9.16	7.54	...	4.16	2.19	...	10.32	7.27
...	...	f ----	...	f ----	f ----	...	f ----	f ----
...	...	f ----	...	f ----	f ----	...	f ----	f ----
...	f 9.29	f 8.09	...	f 4.29	f 2.34	...	f 10.47	f 7.43
...	...	f ----	...	...	f ----	...	f ----	f ----
...	9.40	8.20	...	4.40	2.45	11.45	11.02	7.55
...	P.M.	P.M.	...	P.M.	P.M.	A.M.	A.M.	A.M.
Motor Nº 155	Vapor No. 3	Pasa al cuadro "2" Motor Nº 161	Vapor No. 19	Pasa al cuadro "2" Vapor No. 21	Pasa al cuadro "7" Motor Nº 159	Pasa al cuadro "2" Vapor No. 1	Motor Nº 157	Motor Nº 141

ESTACIONES	Ks.
S. ..... HABANA ..... Ll.	288
..... MATANZAS	196
..... COLISEO	159
..... JOVELLANOS	141
..... COLON	110
..... SANTO DOMINGO	37
Ll. .... SANTA CLARA .... S	0
(Enl. Línea Sta. Clara-Tarafa y F. Cs. Unidos Habana. Cuadros 12 y 17)	
S. ..... SANTA CLARA .... Ll.	0
..... Ochpa	8
..... India	9
..... Manajanabo	17
..... Suplanco	19
..... Miller	20
..... FALCON	24
..... Combate	29
..... Mina Esperanza	34
Ll. ..... CUMBRE ..... S.	36
(Enl. Ramal Trinidad y F. Cs. Unidos Habana. Cuadros 4 y 18)	
S. ..... CUMBRE ..... Ll.	36
..... Máximo	45
..... Crucero Colonia María	49
..... Calabazas	55
..... Pujol	57
..... Piedra	64
..... CABAIGUAN	69
..... GUAYOS	74
..... Placer	78
..... Erenia	80
..... Sabanilla	81
Ll. .. ZAZA DEL MEDIO .. S.	86
(Enl. Rl. Sancti-Spíritus. Cuadro 5)	
S. .. ZAZA DEL MEDIO .. Ll.	86
..... Garcia	90
..... SIGUANEY	94
..... TAGUASCO	98
..... San Juan	101
..... Rubio	105
..... JATIBONICO	110
..... Lajitas	113
..... Trilladeras	116
..... Valle	122
..... Cristales	125
..... MAJAGUA	129
..... GUAYACANES	136
..... Caguasal	145
Ll. .... CIEGO DE AVILA .... S.	154
(Enl. Rl. Júcaro. Cuadro 13)	
S. .... CIEGO DE AVILA .... Ll.	154
..... Hornio	158
..... Vicente	164
..... Quesada	167
..... BARAGUA	171
..... Zoila	175
..... Pachí	176
..... GASPAR	180
..... Corojo	189
..... Cuéllar	195
..... Calvo	198
..... Nazareno	200
..... La Constitución	204
..... PIEDRECITAS	207
..... Estrella	210
..... CESPEDES	213
..... Los Bazanes	216
Ll. ..... FLORIDA ..... S.	220
(Enl. Rl. Florida. Cuadro 16)	
S. ..... FLORIDA ..... Ll.	220
..... Margarita	225
..... Blas	230
..... Luisa	232
..... Parras	236
..... ALGARROBO	237
..... Palomino	239
..... Tomeu	243
..... Guarina	248
..... Emma	250
Ll. ..... CAMAGUEY ..... S.	256
(Enl. Ramales Sta. Cruz y Nuevitas Cuadros 6 y 7)	

LEASE HACIA ARRIBA

Motor Nº 164	Vapor No. 18	Vapor No. 4	Motor Nº 156	Vapor No. 20	Motor Nº 158	Motor Nº 142	Vapor No. 2	Motor Nº 160
...	...	P.M.	...	...	...	...	A.M.	...
...	...	7.50	...	...	...	...	8.00	...
...	...	5.41	...	...	...	...	5.40	...
...	...	4.42	...	...	...	...	4.38	...
...	...	4.15	...	...	...	...	4.14	...
...	...	3.28	...	...	...	...	3.20	...
...	...	1.53	...	...	...	...	1.28	...
...	...	12.40	...	...	...	...	12.10	...
...	...	...	...	...	...	...	...	...
...	A.M.	...	...	P.M.	...	...	...	...
...	10.25	12.15	...	5.33	...	...	11.50	...
...	f 10.15	f 12.06	...	f 5.23	...	...	...	...
...	f ----	f ----	...	f ----	...	...	...	...
...	f 10.04	f 11.56	...	f 5.10	...	...	...	...
...	f ----	f ----	...	f ----	...	...	...	...
...	f ----	f ----	...	f ----	...	...	...	...
...	9.54	11.47	...	5.01	...	...	...	...
...	f ----	f ----	...	f ----	...	...	...	...
...	f ----	f ----	...	f ----	...	...	...	...
...	9.38	11.31	...	4.46	...	...	11.08	...
...	A.M.	...	...	...	...	...	...	...
...	Viene	...	...	...	...	...	...	...
...	de	11.27	...	4.41	...	...	11.05	...
...	cuadro	f 11.16	...	f 4.30	...	...	...	...
...	"4"	f ----	...	f ----	...	...	...	...
...	...	f 11.05	...	f 4.17	...	...	...	...
...	...	f ----	...	f ----	...	...	...	...
...	...	f 10.53	...	f 4.06	...	...	...	...
...	...	10.47	...	4.00	...	...	10.29	...
Pasa al cuadro "5"	...	10.39	...	3.52	...	Pasa al cuadro "5"	f 10.21	...
	...	f ----	...	f ----	...		...	...
	...	f ----	...	f ----	...		...	...
	...	f ----	...	f ----	...		...	...
	...	10.21	...	3.35	...		10.0	...
A.M.	...	...	...	...	...	P.M.	...	...
7.30	...	10.15	...	3.25	...	7.25	9.	...
f ----	...	f ----	...	f ----	...	f ----	...	...
7.19	...	10.03	...	3.13	...	7.14	...	...
7.13	...	9.57	...	3.07	...	7.08	9.35	...
f 7.06	...	f 9.49	...	f 2.58	...	f 7.01	...	...
f ----	...	f ----	...	f ----	...	f ----	...	...
6.56	...	9.38	...	2.46	...	6.49	9.20	...
f ----	...	f ----	...	f ----	...	f ----	...	...
f ----	...	f ----	...	f ----	...	f ----	...	...
f 6.40	...	f 9.22	...	f 2.28	...	f 6.32	...	...
f ----	...	f ----	...	f ----	...	f ----	...	...
6.31	...	9.13	...	2.18	...	6.18	8.58	...
6.20	...	8.57	...	2.07	...	6.07	f 8.49	...
f 6.09	...	f 8.47	...	f 1.55	...	f 5.57	...	...
5.55	...	8.35	...	1.42	...	5.45	8.30	...
A.M.	...	...	A.M.	...	P.M.	...	...	P.M.
...	...	8.25	10.45	1.32	3.30	5.25	8.23	10.55
...	...	f ----	f ----	f ----	f ----	f ----	...	f ----
...	...	f 8.14	f 10.33	f 1.21	f 3.17	f 5.14	...	f 10.42
...	...	f ----	f ----	f ----	f ----	f ----	...	f ----
...	...	8.05	10.23	1.11	3.06	5.04	f 8.05	10.32
...	...	...	f ----	...	f ----	f ----	...	f ----
...	...	f ----	f ----	...	f ----	f ----	...	f ----
...	...	7.55	10.12	1.00	2.55	4.53	7.56	10.21
...	...	f 7.39	f 9.51	f 12.42	f 2.34	f 4.40	...	f 10.08
...	...	f ----	f ----	f ----	f ----	f ----	...	f ----
...	...	...	f ----	...	f ----	f ----	...	f ----
...	...	f 7.26	f 9.36	f 12.28	f 2.20	f 4.26	...	f 9.54
...	...	...	f ----	...	f ----	f ----	...	f ----
...	...	7.18	9.26	12.19	2.11	4.17	f 7.24	9.45
...	...	f 7.13	f 9.21	f 12.13	f 2.06	f 4.12	...	f 9.40
...	...	7.08	9.16	12.07	2.01	4.07	7.15	9.35
...	...	...	f ----	...	f ----	f ----	...	f ----
...	...	6.58	9.06	11.56	1.51	3.57	7.06	9.25
...	...	f ----	f ----	f ----	f ----	f ----	...	f ----
...	...	6.50	9.04	11.50	1.49	3.49	7.03	9.23
...	...	f ----	f ----	f ----	f ----	f ----	...	f ----
...	...	f 6.36	f 8.51	f 11.37	f 1.36	f 3.36	...	f 9.10
...	...	f ----	f ----	f ----	f ----	f ----	...	f ----
...	...	...	f ----	...	f ----	f ----	...	f ----
...	...	6.25	8.40	11.27	1.25	3.25	...	8.55
...	...	...	f ----	f ----	f ----	f ----	...	f ----
...	...	f ----	f ----	f ----	f ----	f ----	...	f ----
...	...	f 6.10	f 8.26	f 11.09	f 1.11	f 3.11	...	f 8.4
...	...	...	f ----	...	f ----	f ----	...	f ----
...	...	6.00	8.15	10.58	1.00	3.00	6.25	...
...	...	A.M	A.M.	A.M.	P.M.	P.M.	P.M.	P.
↑	↑	↑	Viene de cuadro "2"	Viene de cuadro "2"	↑	↑	Viene de cua	...
Motor Nº 164	Vapor No. 18	Vapor No. 4	Motor Nº 156	Vapor No. 20	Motor Nº 158	Motor Nº 142		...

CAMAGUEY — ALTOE

LEASE HACIA ABAJO

Motor No. 161	Vapor No. 21	Vapor No. 125	Motor No. 107	Motor No. 27	Motor No. 149	Motor No. 105	Vapor No. 1	Motor No. 145	Motor No. 103	Vapor No. 5	Vapor No. 7	Vapor No. 17	Vapor No. 9	Vapor No. 11	Motor No. 117	Motor No. 101	Motor No. 29
Viene de Cuadro "1"	Viene de Cuadro "1"						Viene de Cuadro "1"										
P.M.	P.M.		P.M.				P.M.			A.M.	A.M.						
9.15	5.00		3.20				12.05			5.45	4.00						
f 9.29	f 5.17		f 3.34							f 5.59	f 4.12						
f 9.48	f 5.38		f 3.53				f 12.43			r 6.17	f 4.29						
9.59	5.49		4.04							6.27	4.39						
f 10.08	f 5.58		f 4.13							f 6.37	f 4.48						
f ----	f ----		f ----				f 1.02			f ----	f ----						
10.20	6.10		4.31							6.49	4.59						
f ----	f ----		f ----							f ----	f ----						
f ----	f ----		f ----							f ----	f ----						
f ----	f ----		f ----							f ----	f ----						
10.35	6.25		4.47				1.14			7.04	5.13						
P.M.	P.M.										A.M.						
Pasa al Cuadro "3"	Pasa al Cuadro "3"		4.55				1.24			7.10	Pasa al Cuadro "3"						
Motor No. 161	Vapor No. 21		f ----							f ----	Vapor No. 7						
			f ----							f ----							
			5.16				f 1.43			7.31							
			f ----							f ----							
			f 5.30				f 1.55			f 7.45							
			5.44				f 2.07			8.03							
			f ----							f ----							
			f 5.58				2.29			f 8.16							
			c 6.10							8.28							
							2.34										
			6.30							8.38							
			f ----							f ----							
			f ----							f 8.51							
			f 6.43							f ----							
			f ----							f ----							
			f ----														
			7.03				f 2.59			9.11							
			7.10				3.06			9.20							
			7.13				3.13			9.30							
			f ----							f ----							
			7.23				f 3.23			9.45							
			f ----							f ----							
			7.33				f 3.33			10.02							
			f ----							f ----							
			f ----							f ----							
			7.43				f 3.42			10.13							
			f ----							f ----							
			f 7.54							f 10.24							
			f 7.58				f 3.55			f 10.28							
			8.06				4.02			10.37							
			P.M.				4.10			10.47							
			Pasa al Cuadro "8"							f ----							
			Motor No. 107							f ----							
										f ----							
							4.39			f 11.05							
										11.13							
										11.21							
										f ----							
										f 11.33							
										f ----							
							5.01			c 11.45							
							5.10			12.10							
							f 5.17			12.17							
										f ----							
							f 5.37			12.30							
							f 5.41			12.42							
							f 5.47			12.50							
										12.56							
										f ----							
										f ----							
										f 1.08							
										f ----							
										1.17							
										f ----							
										f ----							
										1.30							
										1.40							
										1.48							
										f 1.56							
										2 05							
										f ----							
										f 2.19							
										f ----							
										f ----							
										2.35							
										P.M.							

TOEDRO — SANTIAGO

CUAD 2

LEASE HACIA ARRIBA

ESTAC	Ks	Motor No. 156	Vapor No. 20	Motor No. 108	Motor No. 24	Vapor No. 6	Motor No. 26	Vapor No. 8	Vapor No. 2	Motor No. 102	Motor No. 146	Vapor No. 124	Vapor No. 10	Vapor No. 12	Motor No. 118	Vapor No. 16	Motor No. 104	Motor No. 148	Motor No. 28
		Pasa al Cuadro "1"	Pasa al Cuadro "1"						Pasa al Cuadro "1"										
		A.M.	A.M.	A.M.		P.M.		P.M.	P.M.										
CAMAC	Ll. 256	7.55	9.25	10.20	.....	2.30	.....	5.30	6.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Santay	265	f 7.41	f 9.12	f 10.05	.....	f 2.17	.....	f 5.17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ignac	280	f 7.23	f 8.54	f 9.46	.....	f 1.58	.....	f 4.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
MARCIA	288	7.12	8.43	9.35	.....	1.48	.....	4.48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miras	295	f 7.02	f 8.33	f 9.25	.....	f 1.39	.....	f 4.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bra	298	f ____	f ____	f ____	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
HATI	304	6.50	8.22	9.13	.....	1.28	.....	4.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Art	308	f ____	f ____	f ____	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bap	310	f ____	f ____	f ____	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Indria	314	f ____	f ____	f ____	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
MAE	S. 315	6.30	8.08	8.59	.....	1.14	.....	4.15	4.54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ínea Mar		A.M.	A.M.					P.M.											
Cuadr)								Viene											
MAE	Ll. 315	Viene	Viene	8.56	.....	12.56	.....	de	4.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aren	322	de	de	f ____	.....	f ____	.....	Cuadro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cantera de Aimaro	328	Cuadro	Cuadro	f ____	.....	f ____	.....	"3"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
PALOCO	331	"3"	"3"	8.35	.....	12.35	.....	Vapor	f 4.33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Anna	339	Motor	Vapor	f ____	.....	f ____	.....	No. 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gali	343	No. 156	No. 20	f 8.20	.....	f 12.20	.....	.....	f 4.21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
BARE	354	.....	.....	8.05	.....	12.02	.....	.....	f 4.09	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leban	359	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Domínez	366	.....	.....	f 7.45	.....	f 11.47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
LAS TUAS	S. 376	.....	.....	7.33	.....	11.35	.....	.....	3.46	.....	.....	.....	.....	.....	P.M.	.....	.....	.....	.....
F. C. de Tas. Cuadro 19)		.....	.....		.....		.....	.....		.....	.....	.....	.....	.....	9.55	.....	.....	.....	.....
LAS TUAS	Ll. 376	.....	.....	7.31	.....	c 11.10	.....	.....	3.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rinc	380	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	f ____	.....	.....	.....	.....
Tamt	382	.....	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	f 9.43	.....	.....	.....	.....
Calix	386	.....	.....	f 7.20	.....	f 10.57	.....	.....	.....	.....	.....	.....	.....	.....	f ____	.....	.....	.....	.....
Fleit	389	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	f ____	.....	.....	.....	.....
Gastó	393	.....	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	f ____	.....	.....	.....	.....
Juan Jé	398	.....	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	f ____	.....	.....	.....	.....
OMAA	402	.....	.....	7.00	.....	10.37	.....	.....	3.15	.....	.....	.....	.....	.....	9.24	.....	.....	.....	.....
SABANSO	S. 408	.....	.....	6.52	.....	10.29	.....	.....	3.08	.....	.....	.....	.....	.....	9.16	.....	.....	.....	.....
Chaparra Cuadro 20)		.....	.....		.....		.....	.....		.....	.....	.....	.....	.....		.....	.....	.....	.....
SABANSO	Ll. 408	.....	.....	6.51	.....	10.24	.....	.....	3.03	.....	.....	.....	.....	.....	9.15	.....	.....	.....	.....
Padiene	410	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	f ____	.....	.....	.....	.....
MIR	416	.....	.....	6.42	.....	10.14	.....	.....	f 2.54	.....	.....	.....	.....	.....	9.06	.....	.....	.....	.....
Rioj	420	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	.....	.....	.....	f ____	.....	.....	.....	.....
CUPE	424	.....	.....	6.32	.....	10.00	.....	.....	f 2.44	.....	.....	Pasa	.....	Pasa	8.55	.....	.....	.....	.....
Sao Pedra	427	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	al	.....	al	f ____	.....	.....	.....	.....
Fuente	431	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	Cuadro	.....	Cuadro	f ____	.....	.....	.....	.....
MACE	431	.....	.....	6.22	.....	9.50	.....	.....	f 2.36	.....	.....	"8"	.....	"8"	8.45	.....	.....	.....	.....
Flori	436	.....	.....	f ____	.....	f ____	.....	.....	.....	.....	.....	con el	.....	con el	f ____	.....	.....	.....	.....
Amigo	440	.....	.....	f 6.10	.....	f 9.39	.....	.....	.....	.....	.....	No. 127	.....	No. 79	f 8.33	.....	.....	.....	.....
PALOMO	443	.....	.....	f 6.06	.....	f 9.35	.....	.....	f 2.23	.....	.....	.....	.....	.....	f 8.28	.....	.....	.....	.....
CACOCUM	S. 449	.....	.....	5.58	.....	9.26	.....	.....	2.16	.....	.....	P.M.	.....	P.M.	8.20	.....	.....	.....	.....
Ramal Holguín. Cuadro 8)	Ll. 449	.....	.....	A.M.	.....	9.16	.....	.....	2.06	.....	.....	6.20	.....	8.15	P.M.	.....	.....	.....	.....
Riven	453	.....	.....	Viene	.....	f ____	.....	.....	.....	.....	.....	f ____	.....	f ____	Viene	.....	.....	.....	.....
Lewistin	455	.....	.....	de	.....	f ____	.....	.....	.....	.....	.....	f ____	.....	f ____	de	.....	.....	.....	.....
Margt	461	.....	.....	Cuadro	.....	f ____	.....	.....	.....	.....	.....	f ____	Pasa	f 7.56	Cuadro	.....	.....	.....	.....
Estrac	464	.....	.....	"8"	.....	f 8.59	.....	.....	.....	.....	.....	f 6.01	al	f 7.48	"8"	.....	.....	.....	.....
REY	470	.....	.....	Motor	.....	8.51	.....	.....	.....	.....	.....	5.53	Cuadro	C 7.42	Motor	.....	.....	.....	.....
SAN GERMAN	474	.....	.....	No. 108	.....	8.45	.....	.....	1.40	.....	.....	5.47	"9"	f ____	No. 118	.....	.....	.....	.....
Van Horne	479	.....	.....	.....	.....	f ____	.....	.....	.....	.....	.....	f ____	con el	f 7.25	.....	.....	.....	.....	.....
Parara	484	.....	.....	.....	.....	f 8.30	.....	.....	.....	.....	.....	f 5.31	No. 73	f ____	.....	.....	.....	.....	.....
Colá	488	.....	.....	.....	.....	f ____	.....	.....	.....	.....	.....	f ____	.....	f 7.12	.....	.....	.....	.....	.....
ALTO CEDRO	S. 495	.....	.....	.....	.....	8.17	.....	.....	1.17	.....	.....	5.18	P.M.	P.M.	.....	.....	.....	.....	.....
Ramal Nip. Cuadro 9)	Ll. 495	.....	.....	.....	.....	8.05	.....	.....	1.07	.....	.....	5.07	7.02	Viene	.....	.....	.....	.....	.....
GOS DE BARAGUA	500	.....	.....	.....	.....	7.58	.....	.....	f 1.00	.....	.....	4.59	6.55	de	.....	.....	.....	.....	.....
Puyans	506	.....	.....	.....	.....	f ____	.....	.....	.....	.....	.....	f ____	f ____	Cuadro	.....	.....	.....	.....	.....
ASO ESTANCIA	509	.....	.....	.....	.....	7.45	.....	.....	.....	.....	.....	4.45	6.42	"9"	.....	.....	.....	.....	.....
BAYA	515	.....	.....	.....	.....	7.36	.....	.....	f 12.39	.....	.....	4.36	6.34	Vapor	.....	.....	.....	.....	.....
MIRAYA	518	.....	.....	.....	.....	7.31	.....	.....	f 12.35	.....	.....	4.31	6.29	No. 12	.....	.....	.....	.....	.....
PALMARITO	522	.....	.....	.....	.....	7.22	.....	.....	f 12.29	.....	.....	4.22	6.23	.....	.....	.....	.....	.....	.....
almarito Cauto	523	.....	.....	.....	.....	f ____	.....	.....	.....	.....	.....	f ____	f ____	.....	.....	.....	.....	.....	.....
Mangarso	527	.....	.....	.....	.....	f ____	.....	.....	.....	.....	.....	f ____	f ____	.....	.....	.....	.....	.....	.....
San Nicolás	529	.....	.....	.....	.....	f 7.09	.....	.....	.....	.....	.....	f 4.09	f 6.11	.....	.....	.....	.....	.....	.....
Majagu bo	532	.....	.....	.....	Pasa	f 7.03	Pasa	.....	f 12.13	.....	Pasa	f ____	f ____	.....	.....	Pasa	.....	.....	Pasa
AUZ	533	.....	.....	.....	al	f ____	al	.....	.....	.....	al	4.03	6.05	.....	.....	al	.....	.....	al
Dagame	537	.....	.....	.....	Cuadro	f ____	Cuadro	.....	.....	.....	Cuadro	f ____	f ____	.....	.....	Cuadro	.....	.....	Cuadro
La Caridad	539	.....	.....	.....	"3"	6.48	"3"	.....	11.59	.....	"3"	3.47	5.46	.....	.....	"3"	.....	.....	"3"
SAN LUIS	S. 542	.....	.....	.....	.....	.....	.....	Pasa	.....	Pasa	.....	.....	.....	.....	.....	.....	.....	.....	.....
artí-Bayamo-San Luis y F.C.		.....	.....	A.M.	.....	.....	A.M.	al	.....	al	P.M.	P.M.	.....	.....	.....	P.M.	P.M.	P.M.	P.M.
Occidente. Cuadros 3 y 21)		.....	.....	6.06	.....	6.40	9.18	Cuadro	11.47	Cuadro	2.30	3.37	5.42	.....	.....	6.44	Pasa	Pasa	11.26
SAN LUIS	Ll. 542	.....	.....	f ____	.....	.....	f ____	"11"	.....	"11"	f ____	.....	.....	.....	.....	.....	al	al	f ____
Rousseau	544	.....	.....	5.58	.....	6.32	9.10	Motor	f 11.40	.....	2.22	3.29	5.34	.....	.....	6.36	Cuadro	Cuadro	11.18
OS CAMINOS	548	.....	.....	f ____	.....	.....	f ____	No. 100	.....	.....	f ____	.....	.....	.....	.....	.....	"11"	"11"	f ____
Junyent	551	.....	.....	f 5.48	.....	f 6.23	f 9.01	A.M.	.....	P.M.	f 2.12	f 3.20	f 5.25	.....	.....	f 6.20	P.M.	P.M.	f 11.05
Sebastián	554	.....	.....	5.42	.....	6.17	8.54	9.39	11.27	1.24	2.06	3.13	5.19	.....	.....	6.13	6.42	10.30	10.59
CRISTO	558	.....	.....	f ____	.....	.....	f ____	f ____	.....	f ____	f ____	f ____	f ____	.....	.....	f ____	f ____	f ____	f ____
Dos Bocas	561	.....	.....	f ____	.....	.....	f ____	f ____	.....	f ____	f ____	f ____	f ____	.....	.....	f ____	f ____	f ____	f ____
San Vicente	562	.....	.....	f ____	.....	.....	f 8.40	f 9.24	.....	f 1.08	f 1.46	f 2.56	f 5.05	.....	.....	f 5.56	f 6.28	f 10.15	f 10.45
Boniato	565	.....	.....	f 5.26	.....	.....	f ____	f ____	.....	f ____	f ____	f ____	f ____	.....	.....	f ____	f ____	f ____	f ____
Emilio Bacardí	567	.....	.....	f ____	.....	.....	f ____	f ____	.....	f ____	f ____	f ____	f ____	.....	.....	f ____	f ____	f ____	f ____
cero Santa María	568	.....	.....	f ____	.....	.....	f ____	f ____	.....	f ____	f ____	f ____	f ____	.....	.....	f ____	f ____	f ____	f ____
TIAGO DE CUBA	S. 574	.....	.....	5.10	.....	5.45	8.25	9.10	11.00	12.54	1.30	2.40	4.50	.....	.....	5.40	6.12	10.00	10.30
		.....	.....	A.M.	.....	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	.....	.....	P.M.	P.M.	P.M.	P.M.
EL CASA GRANDA)		156	20	108	24	6	26	100	2	102	146	124	10	12	118	16	104	148	28

MARTI — BAYAMO — SAN LUIS

CUADRO 3

LEASE HACIA ABAJO

Motor No. 27	Motor Nº 105	Motor Nº 145	Motor No. 25	Vapor No. 17	Motor No. 29	Motor Nº 161	Vapor No. 21	Vapor No. 15	Vapor No. 7
						Viene de cuadro "2"	Viene de cuadro "2"	↓	Viene de cuadro "2"
						P.M.	P.M.	P.M.	A.M.
						10.38	6.33	1.35	5.18
						f 10.46	f 6.41	f 1.43	f 5.26
						10.52	6.47	1.49	5.33
						f 10.57	f 6.52	f 1.54	f 5.40
						f ____	f ____	f ____	f ____
						11.08	7.13	2.09	5.58
						f ____	f ____	f ____	
						f 11.19	f 7.24	f 2.20	f 6.08
						f ____	f ____	f ____	f ____
						11.30	7.40	2.34	6.23
						P.M.	f ____	f ____	f ____
							7.52	2.50	6.35
						↓	f 7.57	f 2.55	f 6.44
							f ____	f ____	f ____
							f 8.08	f 3.05	f 6.55
						Motor	f ____	f ____	f ____
						Nº 147	8.23	3.20	7.10
							f 8.33	f 3.30	f 7.19
							8.47	3.45	7.32
						P.M.	f ____	f ____	f ____
						7.50	8.58	3.57	7.47
						f ____		f ____	f ____
						8.02	9.09	4.10	8.00
						f ____		f ____	f ____
						f ____		f ____	f ____
Viene de cuadro "10"	Viene de cuadro "10"	↓	↓	Viene de cuadro "10"		f 8.15	f 9.20	f 4.23	f 8.16
						f ____		f ____	f ____
						f 8.26		f 4.35	f 8.32
						8.40	9.45	4.50	8.45
P.M.	P.M.	P.M.	A.M.	A.M.		P.M.	P.M.	P.M.	A.M.
6.40	5.06	12.40	9.10	7.15				Pasa al	Pasa al
f 6.51	f 5.16	f 12.51	f 9.21	f 7.26				cuadro "10"	cuadro "10"
f ____	f ____	f ____	f ____					con el	con el
f ____	f ____	f ____	f ____	f ____				No. 96	No. 90
7.03	5.28	1.03	9.33	7.38					
7.11	5.36	1.11	9.42	7.47					
7.26	5.50	1.26	9.57	8.03	↓				
f ____	f ____	f ____	f ____	f ____					
f ____	f ____	f ____	f ____	f ____	A.M.				
7.40	6.04	1.45	10.12	8.22	4.15				
f 7.43	f 6.07	f 1.48	f 10.15	f 8.25	f 4.18				
7.50	6.15	1.56	10.24	8.33	4.27				
f ____	f ____	f ____	f ____	f ____	f ____				
8.06	6.26	2.09	10.36	8.46	4.40				
8.12	6.32	2.15	10.42	8.52	4.46				
8.21	6.40	2.24	10.51	9.00	4.55				
f ____	f ____	f ____	f ____	f ____	f ____				
f 8.30	f 6.49	f 2.35	f 11.01	f 9.10	f 5.05				
8.34	6.52	2.42	11.07	9.19	5.13				
f 8.44	f 7.04	f 2.57	f 11.18	f 9.31	f 5.23				
f 8.51	f 7.15	f 3.03	f 11.25	f 9.39	f 5.30				
f ____	f ____	f ____	f ____	f ____	f ____				
f ____	f ____	f ____	f ____	f ____	f ____				
9.06	7.30	3.17	11.40	9.52	5.45				
P.M.	P.M.	P.M.	A.M.	A.M.	A.M.				
Pasa al cuadro "2"	Pasa al cuadro "2"	Pasa al cuadro "2"		Pasa al cuadro "2"	Pasa al cuadro "2"				
27	105	145	25	17	29	147	21	15	7

ESTACIONES	Ks.
S. ..... MARTI ..... Ll.	315
(Enlace Línea Santa Clara-Santiago. Cuadro 2)	
..... Tana	7
..... CUATRO CAMINOS	11
..... Canario	14
..... Alvaflórez	19
..... SANTA LUCIA	22
..... Las Gordas	25
..... Berrocal	30
..... La Conchita	33
..... JOBABO	38
..... Sao Corojo	43
..... RAMIREZ	48
..... Virama	51
..... Madera	53
..... Cayojo	60
..... Dormitorio	65
..... GAMBOA	69
..... Puente Guillén	76
..... GUAMO	87
..... Guamo Viejo	92
..... RIO CAUTO	95
..... Cayamas	98
..... PASTOR	103
..... Fidel	108
..... Planas	109
..... Astray	112
..... Herrán	116
..... Elpidio	120
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S. ..... BAYAMO ..... Ll.	130
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..... Cupeyeito	144
..... SANTA RITA	148
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..... BAIRE	166
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..... CONTRAMAESTRE	176
..... América	177
..... GUANINAO	183
..... Los Pazos	187
..... XAVIER	190
..... Oriente	194
..... CANDONGA	199
..... Calderón	201
..... Central Palma	206
..... PALMA SORIANO	208
..... Hatillo	215
..... San Leandro	219
..... Río Grande	223
..... Enramadas	227
Ll. ..... SAN LUIS ..... S.	228
(Enlace Línea Santa Clara-Santiago de Cuba y F. C. Gtmo. y Occte. Cuadros 2 y 21)	

LEASE HACIA ARRIBA

Motor Nº 156	Vapor No. 20	Vapor No. 14	Vapor No. 8	Motor Nº 146	Motor No. 24	Motor No.26	Motor Nº 106	Vapor No. 16	Motor No. 28
Pasa al cuadro "2"	Pasa al cuadro "2"		Pasa al cuadro "2"						
A.M.	A.M.	P.M.	P.M.						
6.29	8.03	12.45	4.10						
f 6.20	f 7.54	f 12.36	f 4.01						
6.14	7.48	12.30	3.55						
f 6.10	f 7.43	f 12.25	f 3.48						
f ____	f ____	f ____	f ____						
6.00	7.33	12.15	3.37						
f ____	f ____	f ____							
f 5.42	f 7.17	f 11.58	f 3.16						
f ____	f ____	f ____	f ____						
5.30	7.05	11.46	3.05						
A.M.	f ____	f ____	f ____						
	6.48	11.29	2.48						
↑	f 6.43	f 11.23	f 2.42						
	f ____	f ____	f ____						
	f 6.32	f 11.12	f 2.30						
	f ____	f ____	f ____						
	6.20	11.00	2.15						
	f 6.06	f 10.46	f 2.00						
	5.53	10.33	1.47						
	f ____	f ____	f ____	P.M.					
	5.41	10.21	1.35	7.15					
	f ____	f ____	f ____	f					
	5.29	10.09	1.17	7.04					
	f ____	f ____	f ____	f ____					
	f ____	f ____	f ____	f ____					
	f 5.17	f 9.57	f 1.02	f 6.52		Pasa al	Pasa al	Pasa al	
	f ____	f ____	f ____	f ____		cuadro "10"	cuadro "10"	cuadro "10"	
	f 5.05	f 9.45	f 12.50	f 6.40					
	4.50	9.30	12.35	6.25					
	A.M.	A.M.	P.M.			A.M.	P.M.	P.M.	P.M.
↑	↑	Viene de	Viene de						
↑	↑	cuadro "10" con el No. 93	cuadro "10" con el No. 91	5.05	8.50	12 10	2.40	9.32	
↑	↑	↑	↑	f 4.54	f 8.39	f 11.58	f 2.30	f 9.20	
↑	↑	↑	↑	f ____	f ____	f ____	f ____		
↑	↑	↑	↑	f ____	f ____	f ____	f ____	f ____	
↑	↑	↑	↑	4.43	8.28	11.46	2.19	9.09	
↑	↑	↑	↑	4.35	8.20	11.38	2.11	9.01	
↑	↑	↑	↑	4.20	8.05	11.23	1.56	8.46	
↑	↑	↑	↑	f ____	f ____	f ____	f ____	f ____	
↑	↑	↑	↑	f ____	f ____	f ____	f ____	f ____	A.M.
↑	↑	↑	↑	4.05	7.45	11.07	1.41	8.31	12.55
↑	↑	↑	↑	f 3.59	f 7.39	f 11.01	f 1.36	f 8.24	f 12.52
↑	↑	↑	↑	3.50	7.30	10.52	1.28	8.16	12.43
↑	↑	↑	↑	f ____	f ____	f ____	f ____	f ____	f ____
↑	↑	↑	↑	3.38	7.18	10.40	1.17	8.03	12.30
↑	↑	↑	↑	3.32	7.12	10.29	1.11	7.56	12.24
↑	↑	↑	↑	3.23	7.03	10.20	1.03	7.47	12.15
↑	↑	↑	↑	f ____	f ____	f ____	f ____	f ____	f ____
↑	↑	↑	↑	f 3.13	f 6.53	f 10.10	f 12.53	f 7.37	f 12.05
↑	↑	↑	↑	3.10	6.50	10.07	12.50	7.34	12.03
↑	↑	↑	↑	f 2.55	f 6.32	f 9.51	f 12.37	f 7.19	f 11.52
↑	↑	↑	↑	f 2.48	f 6.25	f 9.43	f 12.30	f 7.12	f 11.45
↑	↑	↑	↑	f ____	f ____	f ____	f ____	f ____	f ____
↑	↑	↑	↑	f ____	f ____	f ____	f ____	f ____	f ____
↑	↑	↑	↑	2.33	6.11	9.24	12.15	6.57	11.30
↑	↑	↑	↑	P.M.	A.M.	A.M.	P.M.	P.M.	P.M.
				Viene de cuadro "2"	Viene de cuadro "2"	Viene de cuadro "2"		Viene de cuadro "2"	Viene de cuadro "2"
156	20	14	8	146	24	26	106	16	28

CUMBRE — TRINIDAD — CASILDA

CUADRO 4

LEASE HACIA ABAJO			ESTACIONES	Ks.	LEASE HACIA ARRIBA		
Vapor No. 115	Vapor No. 19	Vapor No. 23			Vapor No. 18	Vapor No. 22	Vapor No. 116
	Viene de Cuadro "1"				Pasa al Cuadro "1"		
P.M.	P.M.	A.M.			A.M.	P.M.	P.M.
4.50	12.50	7.10	S. ..... CUMBRE ..... Ll.	36	9.30	4.00	10.45
f 5.01	f 1.02	f 7.21	..... Guaracabulla	8	f 9.19	f 3.48	f 10.34
5.08	1.12	7.28	..... BAEZ	12	9.13	3.41	10.28
f	f	f	..... Lotería	16	f	f	f .....
f	f	f	..... López Silvero	19	f	f	f .....
5.24	1.33	7.44	..... AGABAMA	23	8.57	3.23	10.10
5.35	1.45	7.53	..... FOMENTO	27	8.50	3.12	10.03
f	f	f	..... Vicentica	32	f	f	f .....
f	f	f	..... Torres	34	f	f	f .....
f 5.52	f 2.00	f 8.09	..... Alfonso	37	f 8.32	f 2.50	f 9.46
f	f	f	..... Sierra Alta	40	f	f	f .....
6.05	2.11	8.24	..... SOPIMPA	43	8.21	2.39	9.36
f	f	f	..... Cedrolia	45	f	f	f .....
f 6.16	f 2.28	f 8.38	..... Manacal	49	f 8.09	f 2.25	f 9.22
6.33	2.43	8.52	..... MEYER	58	7.54	2.11	9.08
f	f	f	..... Mayaguara	61	f	f	f .....
6.46	2.55	9.05	..... CONDADO	65	7.42	1.58	8.55
f	f	f	..... Río Ay	68	f	f	f .....
f 6.54	f 3.02	f 9.13	..... Iznaga	70	f 7.36	f 1.50	f 8.47
f	f	f	..... Magua	74	f	f	f .....
f	f	f	..... Guarico	78	f	f	f .....
f	f	f	..... La Pastora	82	f	f	f .....
f	f	f	..... Irene	83	f	f	f .....
7.20	3.30	9.40	Ll. ..... TRINIDAD ..... S.	86	7.08	1.25	8.20
P.M.	3.40	9.50	S. Ll.		7.00	1.15	P.M.
	3.50	10.00	Ll. ..... CASILDA ..... S.	91	6.50	1.05	
	P.M.	A.M.			A.M.	P.M.	
115	19	23			18	22	116

ZAZA DEL MEDIO — SANCTI SPIRITUS — TUNAS DE ZAZA

CUADRO 5

LEASE HACIA ABAJO								ESTACIONES	Ks.	LEASE HACIA ARRIBA							
Motor Nº 69	Motor Nº 155	Motor Nº 67	Motor Nº 143	Motor Nº 65	Motor Nº 63	Motor Nº 61	Motor Nº 157			Motor Nº 164	Motor Nº 60	Motor Nº 62	Motor Nº 144	Motor Nº 64	Motor Nº 66	Motor Nº 142	Motor Nº 68
P.M.		P.M.		A.M.		A.M.	A.M.				A.M.	P.M.	P.M.	P.M.	P.M.		
8.00	↓	3.25	↓	10.25	↓	6.15	4.40	S. ..... TUNAS DE ZAZA ..... Ll.	53	.....	9.55	12.10	2.20	5.35	7.20	.....	.....
f		f		f		f	f	..... El Salado	45	.....	f	f	f	f	f	.....	.....
8.14		3.39		10.39		6.29	4.55	..... TAYABACOA	44	.....	9.41	11.56	2.05	5.20	7.06	.....	.....
f		f		f		f	f	..... Juan Rodríguez	42	.....	f	f	f	f	f	.....	.....
8.26		3.53		10.51		6.41	5.15	..... GUASIMAL	37	.....	9.29	11.44	1.53	5.08	6.54	.....	.....
f		f		f		f	f	..... Las Bocas	32	.....	f	f	f	f	f	.....	.....
8.39		4.06		11.03		6.54	5.30	..... PAREDES	28	.....	9.16	11.31	1.39	4.54	6.40	.....	.....
f		f		f		f	f	..... Cayajaná	25	.....	f	f	f	f	f	.....	.....
f 8.47		f 4.14		f 11.11		f 7.02	f 5.39	..... Jarao	24	.....	f 9.08	f 11.24	f 1.31	f 4.46	f 6.32	.....	.....
f 8.53	↓	f 4.20	↓	f 11.21	↓	f 7.08	f 5.45	..... San Ramón	21	.....	f 9.02	f 11.18	f 1.24	f 4.39	f 6.26	.....	.....
f		f		f		f	f	..... Camino Banao	20	.....	f	f	f	f	f	.....	.....
9.02	P.M.	4.29	P.M.	11.30	A.M.	7.17	5.55	Ll. ..... SANCTI SPIRITUS ..... S.	14	A.M.	8.53	11.08	1.15	4.30	6.17	P.M.	P.M.
9.10	8.30	4 40	2.45	11.38	9.35	7.25	6.05	S. Ll.		8.05	8.45	11.00	1.05	4.14	6.09	8.00	10.44
f	f	f	f	f	f	f	f	..... Camino de Guayos	12	f	f	f	f	f	f	f	f .....
f	f	f	f	f	f	f	f	..... Madrigal	6	f	f	f	f	f	f	f	f .....
9.30	8.50	5.00	3.05	11.56	9.55	7.43	6.25	..... TUINUCU	5	7.45	8.26	10.41	12.45	3.54	5.50	7.40	10.24
9.40	9.00	5.10	3.15	12.08	10.05	7.53	6.35	Ll. ..... ZAZA DEL MEDIO ..... S.	86	7.32	8.16	10.31	12.35	3.45	5.40	7.30	10.14
P.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	A.M.			A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.
	Pasa al cuadro "1"						Pasa al cuadro "1"			Viene de cuadro "1"	↑	↑	↑	↑	↑	Viene de cuadro "1"	↑
69	155	67	143	65	63	61	157			164	60	62	144	64	66	142	68

CAMAGUEY — SANTA CRUZ DEL SUR

CUADRO 6

LEASE HACIA ABAJO						ESTACIONES	Ks.	LEASE HACIA ARRIBA					
Motor No. 111	Vapor No. 81	Motor No. 129	Motor No. 165	Vapor No. 83	Motor No. 163			Motor No. 166	Vapor No. 80	Motor No. 128	Motor No. 112	Vapor No. 84	Motor No. 162
P.M.	P.M.		A.M.	A.M.				A.M.	A.M.		P.M.	P.M.	
6.00	1.45	...	8.25	6.10	...	S. ..... Litoral Santa Cruz ..... Ll.	99	8.00	11.00	.....	3.45	7.20	.....
6.03	1.48	...	8.28	6.13	...	Ll. .... SANTA CRUZ DEL SUR .... S.	97	7.57	10.57	.....	3.41	7.17	.....
6.10	2.00	...	8.40	6.21	...	S. Ll.		7.51	10.48	.....	3.31	7.05	.....
6.18	f 2.08	...	f 8.48	f 6.29	...	..... Gonzalo de Quesada	92	f 7.43	f 10.40	.....	f 3.23	f 6.58	.....
6.31	2.23	...	9.00	6.42	...	..... SANTA MARTA	86	7.33	10.30	.....	3.13	6.49	.....
6.42	f 2.30	...	f 9.07	f 6.49	...	..... Pino	81	f 7.23	f 10.19	.....	f 3.03	f 6.39	.....
.....	f	...	f	f	...	..... Fierro	74	f	f	.....	f	f	.....
6.58	f 2.44	...	f 9.23	f 7.05	...	..... Forestal	71	f 7.07	f 10.03	.....	f 2.47	f 6.23	.....
7.05	f 2.55	...	f 9.30	f 7.11	...	..... Cuatro Compañeros	68	f 6.57	f 9.57	.....	f 2.37	f 6.17	.....
.....	f	...	f	f	...	..... Buenaventura	64	f	f	.....	f	f	.....
7.15	3.05	...	9.45	7.21	...	..... AGUILAR	62	6.48	9.43	.....	2.26	6.03	.....
.....	f	...	f	f	...	..... Carrión	61	f	f	.....	f	f	.....
7.28	f 3.16	...	f 9.57	f 7.33	...	..... San Carlos	56	f 6.37	f 9.31	.....	f 2.13	f 5.50	.....
7.35	f 3.23	...	f 10.03	f 7.40	...	..... Concordia	53	f 6.31	f 9.24	.....	f 2.06	f 5.43	.....
.....	f	...	f	f	...	..... Antón	47	f	f	.....	f	f	.....
7.53	f 3.39	.....	f 10.18	f 7.58	...	..... La Hormiga	42	f 6.15	f 9.06	.....	f 1.47	f 5.24	.....
8.04	3.51	P.M.	10.29	8.10	A.M.	Ll. ..... VERTIENTES ..... S.	34	6.03	8.54	P.M.	1.35	5.10	P.M.
8.09	3.54	1.55	10.32	8.14	6.20	S. Ll.		6.01	8.50	1.12	1.30	5.05	10.10
.....	f	f	f	f	f	..... La Clarita	31	f	f	f	f	f	f .....
8.24	f 4.06	f 2.08	f 10.45	f 8.26	f 6.33	..... Limpio Grande	27	f 5.50	f 8.38	f 1.00	f 1.16	f 4.51	f 9.57
8.30	f 4.12	f 2.14	f 10.51	f 8.36	f 6.39	..... Morales	23	f 5.44	f 8.33	f 12.54	f 1.10	f 4.45	f 9.51
.....	f	f	f	f	f	..... Gracia de Dios	20	f	f	f	f	f	f .....
.....	f	f	f	f	f	..... Venera	19	f	f	f	f	f	f .....
8.47	f 4.27	f 2.29	f 11.04	f 8.49	f 6.54	..... San Fernando	15	f 5.31	f 8.20	f 12.41	f 12.56	f 4.30	f 9.36
.....	f	f	f	f	f	..... Casas	10	f	f	f	f	f	f .....
.....	f	f	f	f	f	..... Molina	9	f	f	f	f	f	f .....
9.10	4.50	2.50	11.25	9.10	7.15	Ll. ..... CAMAGUEY ..... S.	256	5.10	8.00	12.20	12.35	4.05	9.15
P.M.	P.M.	P.M.	A.M.	A.M.	A.M.			A.M.	A.M.	P.M.	P.M.	P.M.	P.M.
	Al Cuadro "7" No. 85								De Cuadro "7" No. 82				
111	81	129	165	83	163			166	80	128	112	84	162

CAMAGUEY — NUEVITAS — PASTELILLO

CUADRO 7

LEASE HACIA ABAJO												ESTACIONES	Ks.	LEASE HACIA ARRIBA										
Vapor No. 97	Motor No. 179	Vapor No. 85	Motor No. 159	Motor No. 177	Vapor No. 89	Motor No. 175	Vapor No. 109	Motor No. 173	Vapor No. 87	Motor No. 171				Vapor No. 82	Motor No. 174	Motor No. 40	Vapor No. 86	Motor No. 176	Vapor No. 110	Motor No. 178	Vapor No. 88	Motor No. 160	Motor No. 180	Vapor No. 98
		Del cuadro "6" No. 81	Del cuadro "1"											Al cuadro "6" No. 80								Al cuadro "1"		
P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	A.M.	A.M.					A.M.	A.M.		A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.
9.50	6.50	5.18	3.10	1.50	12.40	10.55	9.50	7.30	6.25	.....		S. ..... CAMAGUEY ..... Ll.	256	7.25	9.40	.....	10.50	1.10	2.53	4.15	5.48	7.55	9.05	10.20
.....	f	f	f	f	f	f	f	f	f	.....		..... Alambique	5	f	f	.....	f	f	f	f	f	f	f	f .....
.....	f	f	f	f	f	f	f	f	f	.....		..... Campo de Aviación	8	f	f	.....	f	f	f	f	f	f	f	f .....
10.08	f 7.05	f 5.36	f 3.26	f 2.05	f 12.54	f 11.10	f 10.04	f 7.45	f 6.40	.....		..... Albaisa	9	f 7.10	f 9.25	.....	f 10.35	f 12.55	f 2.38	f 3.59	f 5.33	f 7.39	f 8.50	f 10.05
.....	f	f	f	f	f	f	f	f	f	.....		..... Cromo	13	f	f	.....	f	f	f	f	f	f	f	f .....
.....	f	f	f	f	f	f	f	f	f	.....		..... La Caridad de Piedra	16	f	f	.....	f	f	f	f	f	f	f	.....
10.23	7.25	5.51	3.42	2.25	1.09	11.25	10.24	8.00	7.00	.....		..... ALTAGRACIA	19	6.56	9.10	.....	10.20	12.36	2.23	3.44	5.16	7.23	8.35	9.50
10.29	f 7.31	f 5.58	f 3.49	f 2.31	f 1.15	f 11.31	f 10.31	f 8.06	f 7.06	.....		..... San Serapio	24	f 6.49	f 9.04	.....	f 10.14	f 12.29	f 2.17	f 3.34	f 5.09	f 7.16	f 8.29	f 9.44
.....	f 7.35	f 6.02	f 3.53	f 2.35	f 1.19	f 11.35	f 10.35	f 8.10	f 7.10	.....		..... Magantilla	26	f 6.45	f 9.00	.....	f 10.10	f 12.25	f 2.12	f 3.30	f 5.05	f 7.10	f 8.25	.....
.....	f	f	f	f	f	f	f	f	f	.....		..... Canet	32	f	f	.....	f	f	f	f	f	f	f	f .....
10.46	7.45	6.14	4.05	2.45	1.34	11.45	10.47	8.20	7.20	.....		..... MINAS	34	6.36	8.50	.....	10.00	12.15	2.02	3.20	4.55	7.00	8.15	9.30
10.57	P.M.	f 6.25	f 4.16	P.M.	f 1.45	A.M.	f 10.58	A.M.	f 7.31	.....		..... Ofelia	43	f 6.22	A.M.	.....	f 9.49	P.M.	f 1.48	P.M.	f 4.40	f 6.47	P.M.	f 9.16
.....	.....	f	f	.....	f	.....	f	.....	f	.....		..... Ramblazo	46	f	.....	.....	f	.....	f	.....	f	f	.....	f .....
11.06	.....	6.34	4.29	.....	1.54	.....	11.07	.....	7.40	.....		..... LUGAREÑO	48	6.14	.....	.....	9.40	.....	1.34	.....	4.31	6.38	.....	9.07
.....	.....	f	f	.....	f	.....	f	.....	f	.....		..... Santa Elena	52	f	.....	.....	f	.....	f	.....	f	f	.....	f .....
.....	.....	f	f	.....	f	.....	f	.....	f	Del cuadro "12"		..... Zaldívar	58	f	.....	Al cuadro "12"	f	.....	f	.....	f	f	.....	f .....
.....	.....	f	f	.....	f	.....	f	.....	f	.....		..... Mederos	61	f	.....	.....	f	.....	f	.....	f	f	.....	f .....
11.26	.....	f 6.52	f 4.49	.....	f 2.14	.....	f 11.27	.....	f 8.00	.....		..... Tiffin	64	f 5.55	.....	.....	f 9.20	.....	f 1.14	.....	f 4.09	f 6.13	.....	f 8.47
.....	.....	f	f	.....	f	.....	f	.....	f	A.M.		..... San Jacinto	69	f	.....	A.M.	f	.....	f	.....	f	f	.....	f .....
11.35	.....	f 7.00	f 4.58	.....	f 2.23	.....	f 11.37	.....	f 8.09	7.04		..... Miramar	70	f 5.46	.....	8.30	f 9.11	.....	f 1.05	.....	f 3.59	f 6.03	.....	f 8.37
.....	.....	f	f	.....	f	.....	f	.....	f	f		..... Carretera	72	f	.....	f	f	.....	f	.....	f	f	.....	f .....
11.40	.....	7.05	5.03	.....	2.28	.....	11.42	.....	8.13	7.10		Ll. ..... NUEVITAS ..... S.	73	5.40	.....	8.25	9.07	.....	1.00	.....	3.52	5.58	.....	8.32
11.45	.....	7.15	5.05	.....	2.35	.....	11.46	.....	8.17	A.M.		S. Ll.		5.35	.....	A.M.	9.02	.....	12.55	.....	3.45	5.55	.....	8.25
11.55	.....	7.25	5.15	.....	2.45	.....	11.55	.....	8.27	.....		Ll. ..... PASTELILLO ..... S.	78	5.25	.....	.....	8.52	.....	12.45	.....	3.35	5.45	.....	8.15
P.M.		P.M.	P.M.		P.M.		A.M.		A.M.					A.M.			A.M.		P.M.		P.M.	P.M.		P.M.
97	179	85	159	177	89	175	109	173	87	171				82	174	40	86	176	110	178	88	160	180	98

CACOCUM — HOLGUIN

CUADRO 8

LEASE HACIA ABAJO								ESTACIONES	Ks.	LEASE HACIA ARRIBA							
Mixto No 79	Motor No 107	Vapor No 127	Motor No 153	Motor No 77	Motor No 75	Motor No 151	Motor No 117			Motor No 108	Mixto No 78	Motor No 150	Motor No 74	Motor No 76	Motor No 152	Motor No 118	Vapor No 126
De Cuadro "2" No 12	De Cuadro "2"	De Cuadro "2" No 124	↓	↓	↓	↓	De Cuadro "2"			Al Cuadro "2"	Al Cuadro "2" No 11					Al Cuadro "2"	Al Cuadro "2" No 125
P.M. 8.40	P.M. 8.15	P.M. 6.30	P.M. 4.20	P.M. 2.25	A.M. 11.00	A.M. 9.25	A.M. 7.00	S. ..... CACOCUM ..... Ll.	449	A.M. 5.50	A.M. 6.43	A.M. 9.05	A.M. 10.35	P.M. 1.55	P.M. 3.50	P.M. 8.06	P.M. 8.40
.....	f ----	.....	f ----	f ----	f ----	f ----	f ----	..... Jesús	6	f ----	.....	f ----	f ----	f ----	f ----	f ----	.....
f 8.52	f 8.31	f 6.40	f 4.31	f 2.36	f 11.14	f 9.39	f 7.11	..... Providencia	8	f 5.39	f 6.31	f 8.54	f 10.24	f 1.44	f 3.39	f 7.54	f 8.29
f ----	f ----	f ----	f ----	f ----	f ----	f ----	f ----	..... Teresa	10	f ----	f ----	f ----	f ----	f ----	f ----	f ----	f ----
f ----	f ----	f ----	f ----	f ----	f ----	f ----	f ----	..... Güirabo	13	f ----	f ----	f ----	f ----	f ----	f ----	f ----	f ----
9.10 P.M.	8.45 P.M.	6.55 P.M.	4.45 P.M.	2.50 P.M.	11.25 A.M.	9.50 A.M.	7.25 A.M.	Ll. ..... HOLGUIN ..... S.	18	5.25 A.M.	6.15 A.M.	8.40 A.M.	10.10 A.M.	1.30 P.M.	3.25 P.M.	7.40 P.M.	8.15 P.M.
79	107	127	153	77	75	151	117			108	78	150	74	76	152	118	126

ALTO CEDRO — ANTILLA

CUADRO 9

LEASE HACIA ABAJO					ESTACIONES	Ks.	LEASE HACIA ARRIBA				
Vapor No. 73	Vapor No. 123	Vapor No. 71	Vapor No. 121	Vapor No. 11			Vapor No. 70	Vapor No. 120	Vapor No. 72	Vapor No. 122	Vapor No. 12
De Cuadro "2" No. 10	↓	↓	↓	De Cuadro "2"			Al Cuadro "2" No. 9				Al Cuadro "2"
P.M. 7.10	P.M. 5.20	P.M. 1.30	P.M. 12.10	A.M. 8.14	S. ..... ALTO CEDRO ..... Ll.	495	A.M. 7.55	A.M. 11.30	P.M. 12.58	P.M. 4.50	P.M. 7.00
f ----	f ----	f ----	f ----	f ----	..... Novoa	4	f ----	f ----	f ----	f ----	f ----
7.20	5.30	1.40	12.21	8.24	..... MARCANE	8	7.45	11.20	12.48	4.40	6.50
f ----	f ----	f ----	f ----	f ----	..... Barajagua	12	f ----	f ----	f ----	f ----	f ----
7.36	5.48	1.58	12.41	8.41	..... CUETO	16	7.32	11.07	12.35	4.27	6.37
f ----	f ----	f ----	f ----	f ----	..... Mc. Carthy	21	f ----	f ----	f ----	f ----	f ----
f 7.49	f 6.01	f 2.11	f 12.54	f 8.54	..... Güira	24	f 7.16	f 10.51	f 12.16	f 4.11	f 6.21
7.58	6.15	2.20	1.03	9.03	..... HERRERA	31	7.07	10.42	12.07	4.02	6.12
8.12	6.29	2.34	1.17	9.17	..... DUMOIS	41	6.53	10.28	11.53	3.48	5.58
f ----	f ----	f ----	f ----	f ----	..... Oliver	45	f ----	f ----	f ----	f ----	f ----
8.25 P.M.	6.42 P.M.	2.47 P.M.	1.30 P.M.	9.30 A.M.	Ll. ..... ANTILLA ..... S.	50	6.40 A.M.	10.15 A.M.	11.40 A.M.	3.35 P.M.	5.45 P.M.
73	123	71	121	11			70	120	72	122	12

BAYAMO — MANZANILLO

CUADRO 10

LEASE HACIA ABAJO						ESTACIONES	Ks.	LEASE HACIA ARRIBA					
Vapor No. 95	Motor No. 27	Motor No. 105	Vapor No. 91	Vapor No. 93	Vapor No. 17			Vapor No. 92	Vapor No. 90	Motor No. 26	Motor No. 106	Vapor No. 96	Vapor No. 16
P.M. 7.15	P.M. 4.50	P.M. 3.00	A.M. 10.45	A.M. 7.45	A.M. 5.50	S. ..... MANZANILLO ..... Ll.	53	A.M. 6.55	A.M. 10.30	P.M. 2.05	P.M. 4.15	P.M. 6.35	P.M. 11.15
f ----	f ----	f ----	f ----	f ----	f ----	..... Faxas	48	f ----	f ----	f ----	f ----	f ----	f ----
f ----	f ----	f ----	.....	f ----	f ----	..... Coboa	37	f ----	.....	f ----	f ----	f ----	f ----
7.40	5.15	3.25	11.10	8.10	6.14	..... YARA	34	6.32	10.06	1.40	3.50	6.11	10.52
7.49	5.25	3.40	11.19	8.19	6.26	..... VEGUITA	27	6.23	9.57	1.29	3.39	6.02	10.43
f ----	f ----	f ----	f ----	f ----	f ----	..... Río Buey	25	f ----	f ----	f ----	f ----	f ----	f ----
8.05	5.48	3.58	11.35	8.35	6.43	..... JULIA	15	6.06	9.41	1.11	3.21	5.46	10.27
f ----	f ----	f ----	f ----	f ----	f ----	..... Mabay	13	f ----	f ----	f ----	f ----	f ----	f ----
f 8.16	f 6.01	f 4.11	f 11.46	f 8.46	f 6.55	..... Malvango	6	f 5.54	f 9.29	f 12.59	f 3.09	f 5.34	f 10.14
8.30 P.M.	6.15 P.M. Al Cuadro "3"	4.25 P.M. Al Cuadro "3"	12.01 P.M. Al Cuadro "3" No. 8	9.00 A.M. Al Cuadro "3" No. 14	7.09 A.M. Al Cuadro "3"	Ll. ..... BAYAMO ..... S.	130	5.40 A.M.	9.15 A.M. De Cuadro "3" No. 7	12.45 P.M. De Cuadro "3"	2.55 P.M. De Cuadro "3"	5.20 P.M. De Cuadro "3" No. 15	10.00 P.M. De Cuadro "3"
95	27	105	91	93	17			92	90	26	106	96	16

CRISTO — LA MAYA — PONUPO

CUADRO 11

LEASE HACIA ABAJO					ESTACIONES		Ks.	LEASE HACIA ARRIBA				
Motor No. 149	Motor No. 103	Motor No. 99	Motor No 101	Motor No. 113				Motor No. 114	Motor No. 100	Motor No. 102	Motor No. 104	Motor No. 148
P.M.	P.M.	A.M.	A.M.					A.M.	A.M.	P.M.	P.M.	P.M.
7.46	2.25	10.34	7.15		S.	Ponupo Ll.	18	7.06	10.24	2.12	7.36	11.15
7.52	2.30	10.39	7.20	A.M.	Ll.	LA MAYA S.	16	7.01	10.18	2.07	7.30	11.09
8.00	2.51	10.45	7.24	5.34	S.	Ll.		6.58	10.14	1.58	7.20	11.05
f ------	f ------	f ------	f ------	f ------		Vereda	15	f ------	f ------	f ------	f ------	f ------
f ------	f ------	f ------	f ------	f ------		Socorro	12	f ------	f ------	f ------	f ------	f ------
f 8.12	f 3.03	f 10.57	f 7.36	f 5.46		Songo	9	f 6.46	f 10.02	f 1.46	f 7.08	f 10.53
f ------	f ------	f ------	f ------	f ------		Gómez	5	f ------	f ------	f ------	f ------	f ------
f 8.21	f 3.13	f 11.06	f 7.45	f 5.55		Algodonal	4	f 6.37	f 9.52	f 1.36	f 6.59	f 10.44
8.33	3.25	11.18	7.56	6.05	Ll.	CRISTO S.	558	6.27	9.40	1.26	6.48	10.33
P.M.	P.M.	A.M.	A.M.	A.M.				A.M.	A.M.	P.M.	P.M.	P.M.
Al	Al	Al	Al					De	De	De	De	De
Cuadro "2"	Cuadro "2"	Cuadro "2"	Cuadro "2"					Cuadro "2"	Cuadro "2"	Cuadro "2"	Cuadro "2"	Cuadro "2"
149	103	99	101	113				114	100	102	104	148

ADVERTENCIAS

Tren No. 2 parará en las estaciones que no tienen parada reglamentaria o por señal, entre Camagüey y Santa Clara, para dejar viajeros procedentes del Este de Camagüey.

Servicio de Coches Dormitorios se presta en los trenes No. 1 y No. 2 entre la Habana, Antilla y Santiago de Cuba y entre la Habana y Manzanillo.

Los trenes entre Santiago y La Maya, harán servicio mixto, cuando sea necesario.

Trenes Nos. 42 y 43 entre Júcaro y Morón, circularán con equipo de vapor, servicio mixto, cuando sea necesario.

Los trenes Nos. 173, 174, 175, 176, 177, 178, 179 y 180, que circulan entre Camagüey y Minas, quedan sujetos a supresión con un aviso previo de 72 horas.

Metros Sobre el Nivel del Mar a Que se Encuentran Algunos Lugares de Estos Ferrocarriles

Alto Cedro	98.20	Florencia	95.52	Morón	10.75
Baire	153.04	Florida	66.55	Palma Soriano	130.07
Bayamo	52.80	Fomento	124.46	Sancti Spíritus	56.84
Cacocum	69.80	Holguín	129.30	Santa Clara	111.99
Camagüey	98.64	Iguará	218.44	San Luis	171.72
Ceballos	60.06	Jatibonico	73.37	Sola	37.02
Ciego de Avila	43.08	Jobabo	41.10	Trinidad	49.28
Cristo	194.26	La Maya	234.00	Woodin	28.78
Cumbre	196.68	Las Tunas	90.56	Zaza del Medio	52.81
Chambas	39.00	Martí	119.70		

SANTA CLARA — MORON — PUERTO TARAFA

CUADRO 12

LEASE HACIA ABAJO

Motor No. 181	Motor No. 33	Motor No. 139	Motor No. 39	Motor No. 37	Vapor No. 31	Motor No. 41	Motor No. 137	Motor No. 171
P.M.	P.M.		A.M.		A.M.			
6.05	3.10	.....	11.10	.....	6.35	.....	.....	.....
f 6.22	f 3.25	.....	f 11.28	.....	f 6.49	.....	.....	.....
6.31	3.33	.....	11.36	.....	6.57	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
6.43	3.45	.....	11.49	.....	7.08	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
f 6.56	f 3.57	.....	f 12.01	.....	f 7.20	.....	.....	.....
7.08	4.08	.....	12.12	.....	7.30	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
7.22	4.17	.....	12.21	.....	7.38	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
f 7.39	f 4.35	.....	f 12.39	.....	7.56	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
7.53	4.53	.....	12.55	.....	8.13	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
8.06	5.09	.....	1.10	.....	8.28	.....	.....	.....
f -----	f -----	.....	f -----	.....	f -----	.....	.....	.....
f -----	f -----	P.M.	f -----	.....	f -----	.....	A.M.	.....
8.20	5.26	4.20	1.32	.....	8.44	.....	5.00	.....
P.M.	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	5.51	4.42	1.52	.....	9.06	.....	5.20	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	6.01	4.52	2.00	.....	9.14	.....	5.28	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	6.14	5.06	2.13	.....	9.27	.....	5.41	.....
.....	6.22	5.18	2.23	.....	9.35	.....	5.48	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	6.35	5.31	2.36	.....	9.49	.....	6.01	.....
.....	6.43	5.39	2.44	.....	9.56	.....	6.09	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
.....	7.04	6.01	3.05	.....	10.15	.....	6.28	.....
Motor	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
No. 47	f -----	f -----	f -----	.....	f -----	.....	f -----	.....
Viene	f 7.15	f 6.14	f 3.16	Viene	f 10.25	Viene	f 6.39	.....
de	f -----	f -----	f -----	de	f -----	de	f -----	.....
Cuadro	7.30	6.30	3.32	Cuadro	10.40	Cuadro	6.55	.....
"13"	P.M.	P.M.	.....	"13"	.....	"13"	A.M.	.....
P.M.				P.M.		A.M.		
7.40	.....	.....	3.50	2.50	11.05	7.15	.....	.....
7.45	.....	.....	3.55	2.55	11.10	7.20	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
7.57	.....	.....	4.05	3.06	11.20	7.31	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
8.10	.....	.....	4.17	3.23	11.32	7.44	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
f 8.21	.....	.....	f 4.28	f 3.34	f 11.43	f 7.55	.....	.....
8.26	.....	.....	4.32	3.39	11.50	7.59	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
8.41	.....	.....	4.47	3.54	12.04	8.15	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
8.42	.....	.....	4.48	3.57	12.10	8.20	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
8.54	.....	.....	5.04	4.09	12.22	8.34	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	.....
9.07	.....	.....	5.17	4.22	12.36	8.47	.....	.....
9.15	.....	.....	5.25	4.30	12.44	8.55	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	A.M.
9.19	.....	.....	5.35	4.35	12.55	9.12	.....	4.35
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	f -----
9.28	.....	.....	5.44	4.45	1.04	9.21	.....	4.44
9.35	.....	.....	5.51	4.52	1.10	9.28	.....	4.51
f -----	.....	.....	f -----	f -----	f -----	f -----	.....	f -----
9.45	.....	.....	6.03	5.00	1.19	9.37	.....	5.03
f -----	.....	.....	f -----	P.M.	f -----	f -----	.....	f -----
10.00	.....	.....	6.16	.....	1.30	9.50	.....	5.17
f -----	.....	.....	f -----	.....	f -----	f -----	f -----	f -----
f -----	.....	.....	f -----	.....	f -----	f -----	f -----	f -----
f -----	.....	.....	f -----	.....	f -----	f -----	f -----	f -----
f -----	.....	.....	f -----	.....	f -----	f 10.08	f -----	f -----
10.20	.....	.....	6.37	.....	1.48	10.14	.....	5.37
f -----	.....	.....	f -----	.....	f -----	f -----	f -----	f -----
f -----	.....	.....	f -----	.....	f -----	f -----	f -----	f -----
f -----	.....	.....	f -----	.....	f -----	f -----	f -----	f -----
f -----	.....	.....	f -----	.....	f -----	f -----	f -----	f -----
10.35	.....	.....	6.55	.....	2.01	10.30	.....	5.53
P.M.	.....	.....	f -----	.....	f -----	A.M.	.....	f -----
.....	.....	.....	f 7.04	.....	f 2.09	.....	.....	f 6.02
.....	.....	.....	f -----	.....	f -----	.....	.....	f -----
.....	.....	.....	f -----	.....	f -----	.....	.....	f -----
.....	.....	.....	f -----	.....	f -----	.....	.....	f -----
.....	.....	.....	7.18	.....	2.22	.....	.....	6.16
.....	.....	.....	f -----	.....	f -----	.....	.....	f -----
.....	.....	.....	f 7.35	.....	2.40	.....	.....	f 6.32
.....	.....	.....	f 7.54	.....	f 2.56	.....	.....	f 6.50
.....	.....	.....	f -----	.....	f -----	.....	.....	f -----
.....	.....	.....	f 8.06	.....	f 3.07	.....	.....	7.02
.....	.....	.....	f -----	.....	f -----	.....	.....	A.M.
.....	.....	.....	8.15	.....	3.15	.....	.....	Al
.....	.....	.....	P.M.	.....	P.M.	.....	.....	Cuadro "7"
47	33	139	39	37	31	41	137	171

Ks.	ESTACIONES
0	S. ..... SANTA CLARA ..... Ll.
13	..... Margot .....
19	..... CARMITA .....
23	..... Corona .....
28	..... CAMAJUANI .....
32	..... Beba .....
37	..... Central Fé .....
45	..... CASALLAS .....
45	..... Crucero Casallas .....
49	..... Central San Pablo .....
51	..... ZULUETA DEL SUR .....
57	..... Urrutia .....
60	..... El Junco .....
63	..... Remate .....
68	..... San Gregorio .....
72	..... GENERAL CARRILLO .....
75	..... Elvira .....
77	..... Crucero San Agustín .....
79	..... JARAHUECA .....
83	..... Rancho Chico .....
86	..... General Delgado .....
89	..... IGUARA .....
94	..... Mérida .....
96	..... La Luz .....
101	..... VENEGAS .....
103	..... Leida .....
106	..... PEREA .....
110	..... Escobar .....
112	..... Los Ramones .....
114	..... Lowrey .....
118	..... FLORENCIA .....
123	..... El Peñón .....
126	..... Mabuya .....
130	..... CHAMBAS .....
131	..... Tamarindo .....
136	..... Corojito .....
138	..... Joaquín .....
143	..... FALLA .....
144	..... Crucero Falla .....
148	..... Coralia .....
151	..... Ranchuelo .....
157	..... Peonía .....
162	Ll. ..... MORON ..... S.
	(Enlaces Júcaro y San Fernando. Cuadros 13 y 14)
162	S. ..... MORON ..... Ll.
165	..... PATRIA .....
169	..... Caracol .....
173	..... EDEN .....
177	..... Onelia .....
178	..... Jotamoreno .....
182	..... DELIA .....
186	..... Pulido .....
190	..... Georgina .....
191	..... VIOLETA .....
196	..... Bocanasa .....
203	Ll. ..... VELASCO ..... S.
	(Enlace Cunagua. Cuadro 15)
203	S. ..... VELASCO ..... Ll.
207	..... Hungría .....
212	..... TABOR .....
217	..... Alegrías .....
219	..... Núñez .....
221	..... CAONAO .....
226	Ll. ..... WOODIN ..... S.
	(Enlace Florida .Cuadro 16)
226	S. ..... WOODIN ..... Ll.
230	..... Batán .....
233	..... DONATO .....
237	..... JIQUI .....
241	..... Justino .....
244	..... JARONU .....
247	..... Laura .....
253	..... LOMBILLO .....
254	..... Sergio .....
256	..... Bacallao .....
261	..... California .....
263	..... Navarro .....
267	..... IMIAS .....
270	..... Saimí .....
272	..... Maisí .....
274	..... Burford .....
275	..... La Gloria .....
277	..... SOLA .....
281	..... Maruja .....
283	..... Truffin .....
285	..... Don Manuel .....
288	..... Río Máximo .....
290	..... El Cocal .....
292	..... SENADO .....
299	..... Sonora .....
303	..... LUGAREÑO .....
317	..... Flores .....
325	..... San Jacinto .....
327	..... Miramar .....
328	..... Número Uno .....
329	Ll. ..... PUERTO TARAFA ..... S.

LEASE HACIA ARRIBA

Motor No. 182	Motor No. 44	Motor No. 34	Motor No. 38	Motor No. 40	Motor No. 136	Motor No. 48	Vapor No. 32	Vapor No. 36	Motor No. 138
A.M.		A.M.	P.M.				P.M.		
8.35	.....	11.40	3.43	.....	.....	.....	8.30	.....	.....
f 8.18	.....	f 11.26	f 3.27	.....	.....	.....	f 8.15	.....	.....
8.09	.....	11.17	3.14	.....	.....	.....	8.06	.....	.....
f -----	.....	f -----	f -----	.....	.....	.....	f -----	.....	.....
7.57	.....	11.06	3.04	.....	.....	.....	7.55	.....	.....
f -----	.....	f -----	f -----	.....	.....	.....	f -----	.....	.....
f 7.44	.....	f 10.54	f 2.52	.....	.....	.....	f 7.40	.....	.....
7.32	.....	10.43	2.40	.....	.....	.....	7.28	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
7.18	.....	10.35	2.32	.....	.....	.....	7.20	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
f 7.01	.....	f 10.16	f 2.13	.....	.....	f 6.58	.....	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
6.47	.....	10.03	1.59	.....	.....	6.44	.....	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
6.34	.....	9.47	1.43	.....	.....	6.28	.....	.....	.....
f -----	.....	f -----	f -----	.....	.....	f -----	.....	.....	.....
f -----	.....	f -----	f -----	.....	P.M.	f -----	.....	.....	P.M.
6.20	.....	9.31	1.26	.....	3.15	.....	6.12	.....	9.40
A.M.	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	9.10	1.01	.....	2.55	.....	5.48	.....	9.20
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	8.57	12.53	.....	2.45	.....	5.37	.....	9.12
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	8.41	12.38	.....	2.33	.....	5.21	.....	8.59
.....	.....	8.35	12.32	.....	2.26	.....	5.15	.....	8.52
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	8.17	12.17	.....	2.10	.....	4.58	.....	8.36
.....	.....	8.12	12.12	.....	2.05	.....	4.53	.....	8.31
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	7.50	11.50	.....	1.44	.....	4.30	.....	8.10
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	.....	f -----	f -----	.....	f -----	.....	f -----	.....	f -----
.....	Pasa	f 7.35	f 11.36	Pasa	f 1.31	Pasa	f 4.15	Pasa	f 7.57
.....	al	f -----	f -----	al	f -----	al	f -----	al	f -----
.....	Cuadro	7.20	11.20	Cuadro	1.15	Cuadro	4.00	Cuadro	7.40
.....	"13"	A.M.	.....	"13"	P.M.	"13"	P.M.	"13"	P.M.
.....	A.M.	.....	.....	P.M.	.....	P.M.	.....	P.M.	.....
.....	7.05	.....	10.55	1.06	.....	3.48	.....	6.25	.....
.....	7.00	.....	10.50	1.01	.....	3.43	.....	6.20	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	6.49	.....	10.39	12.49	.....	3.32	.....	6.09	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	6.35	.....	10.26	12.36	.....	3.20	.....	5.56	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f 6.24	.....	f 10.14	f 12.24	.....	f 3.08	.....	f 5.44	.....
.....	6.20	.....	10.09	12.20	.....	3.04	.....	5.39	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	6.05	.....	9.50	12.05	.....	2.49	.....	5.20	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	6.03	.....	9.45	11.55	.....	2.47	.....	5.14	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	5.50	.....	9.32	11.41	.....	2.35	.....	5.02	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	5.37	.....	9.18	11.28	.....	2.22	.....	4.49	Motor
.....	5.28	.....	9.10	11.20	.....	2.14	.....	4.42	No. 172
.....	.....	.....	.....	.....	.....	.....	.....	.....	P.M.
.....	5.25	.....	9.00	c 10.55	.....	2.12	.....	4.32	6.10
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	f -----
.....	5.16	.....	8.51	10.47	.....	2.03	.....	4.24	6.00
.....	5.09	.....	8.44	10.40	.....	1.56	.....	4.17	5.52
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	5.00	.....	8.35	10.31	.....	1.46	.....	4.07	5.40
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	P.M.
.....	4.45	.....	8.22	10.19	.....	1.33	.....	3.53	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	4.25	.....	8.02	10.00	.....	1.06	.....	3.33	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	f -----	.....	f -----	f -----	.....	f -----	.....	f -----	.....
.....	4.10	.....	7.48	9.43	.....	12.50	.....	3.18	.....
.....	A.M.	.....	f -----	f -----	.....	P.M.	.....	f -----	.....
.....	.....	.....	f 7.37	f 9.31	.....	.....	.....	3.04	.....
.....	.....	.....	f -----	f -----	.....	.....	.....	f -----	.....
.....	.....	.....	f -----	f -----	.....	.....	.....	f -----	.....
.....	.....	.....	f -----	f -----	.....	.....	.....	f -----	.....
.....	.....	.....	7.25	9.18	.....	.....	.....	2.51	.....
.....	.....	.....	f -----	f -----	.....	.....	.....	f -----	.....
.....	.....	.....	7.10	9.03	.....	.....	.....	2.35	.....
.....	.....	.....	f 6.52	f 8.44	.....	.....	.....	f 2.19	.....
.....	.....	.....	f -----	f -----	.....	.....	.....	f -----	.....
.....	.....	.....	f -----	f -----	.....	.....	.....	f -----	.....
.....	.....	.....	6.35	8.32	.....	.....	.....	2.08	.....
.....	.....	.....	f -----	A.M.	.....	.....	.....	f -----	.....
.....	.....	.....	6.25	De	.....	.....	.....	2.00	.....
.....	.....	.....	A.M.	Cuadro "7"	.....	.....	.....	P.M.	.....
182	44	34	38	40	136	48	32	36	172

JUCARO — CIEGO DE AVILA — MORON

CUADRO 13

LEASE HACIA ABAJO								ESTACIONES	Kms.	LEASE HACIA ARRIBA						
Vapor No. 35	Motor No. 49	Motor No. 47	Motor No. 45	Motor No. 37	Motor No. 131	Motor No. 43	Motor No. 41			Motor No. 42	Motor No. 44	Motor No. 130	Motor No. 46	Motor No. 40	Motor No. 48	Vapor No. 36
	P.M.	P.M.	P.M.	P.M.		A.M.				A.M.		A.M.	P.M.	P.M.	P.M.	
...	7.20	5.00	1.55	12.50	...	7.20	...	S. ..... JUCARO ..... Ll.	61	6.25	.....	10.35	12.40	2.56	6.30	.....
...	f -----	f -----	f -----	f -----	...	f -----	...	..... Dos Hermanas	55	f -----	.....	f -----	f -----	f -----	f -----	.....
...		f -----			...		...	..... Virgilio	52		.....					.....
...	f 7.35	f 5.15	f 2.10	f 1.05	...	f 7.35	...	..... Trocha	51	f 6.10	.....	f 10.19	f 12.26	f 2.41	f 6.15	.....
...	f -----	f -----	f -----	f -----	...	f -----	...	..... Pitajones	49	f -----	.....	f -----	f -----	f -----	f -----	.....
...	f -----	f -----	f -----	f -----	A.M.		...	..... Barbero	48	.....	A.M.	f -----	f -----	f -----	f -----	.....
...	7.44	5.24	2.19	1.14	9.15	7.44	...	..... SILVEIRA	45	6.01	8.55	10.10	12.17	2.32	6.06	.....
...	f 7.49	f 5.29	f 2.30	f 1.19	f 9.20	f 7.49	...	..... Carolina	43	f 5.56	f 8.50	f 10.05	f 12.11	f 2.26	f 6.01	.....
...	f -----	f -----	f -----	f -----	f -----	f -----	...	..... Piñero	40	f -----	f -----	f -----	f -----	f -----	f -----	.....
...	f -----	f -----	f -----	f -----	f -----	f -----	...	..... Galán	39	f -----	f -----	f -----	f -----	f -----	f -----	.....
...	8.00	5.40	2.41	1.30	9.30	8.00	...	Ll. ..... CIEGO DE AVILA ..... S.	35	5.45	8.40	9.54	12.01	2.16	5.50	.....
P.M.	P.M.	.....	.....	.....	A.M.	.....	A.M.	(Enlace F. C. de Cuba. Cuadro 1)		.....	.....	A.M.	.....	.....	.....	P.M.
8.47	.....	5.45	2.47	1.40	.....	9.52	6.05	S. ..... CIEGO DE AVILA ..... Ll.	35	5.20	8.20	...	11.58	2.04	5.34	7.45
f 8.59	.....	f 5.57	f 2.59	f 1.55	.....	f 10.04	f 6.17	..... Santo Tomás	27	f 5.08	f 8.08	...	f 11.46	f 1.52	f 5.22	f 7.33
9.02	.....	6.00	3.02	1.58	.....	10.07	6.20	..... RUSPOLI	25	5.05	8.05	...	11.43	1.49	5.19	7.29
9.08	.....	6.06	3.08	2.04	.....	10.13	6.26	..... CEBALLOS	22	4.56	7.59	...	11.37	1.43	5.13	7.23
.....	.....	f -----	f -----	f -----	.....	f -----	f -----	..... Limpiones	20	f -----	f -----	...	f -----	f -----	f -----	.....
f -----	.....	f -----	f -----	f -----	.....	f -----	f -----	..... Fontanals	18	f -----	f -----	...	f -----	f -----	f -----	f -----
f -----	.....	f -----	f -----	f -----	.....	f -----	f -----	..... El Manguito	16	f -----	f -----	...	f -----	f -----	f -----	f -----
9.22	.....	6.22	3.22	2.22	.....	10.27	6.40	..... PINA	13	4.37	7.45	...	11.24	1.29	5.00	7.09
f -----	.....	f -----	f -----	f -----	.....	f -----	f -----	..... El Migial	9	f -----	f -----	...	f -----	f -----	f -----	f -----
.....	.....	f -----	f -----	f -----	.....	f -----	f -----	..... Nereida	5	.....	f -----	...	f -----	f -----	.....	.....
9.40	.....	6.40	3.40	2.40	.....	10.45	6.58	Ll. ..... MORON ..... S.	162	4.15	7.25	...	11.05	1.10	4.40	6.50
P.M.		P.M. Pasa al Cuadro "12"	P.M.	P.M. Pasa al Cuadro "12"		A.M.	A.M. Pasa al Cuadro "12"			A.M.	A.M. Viene de Cuadro "12"		A.M.	P.M. Viene de Cuadro "12"	P.M. Viene de Cuadro "12"	P.M. Viene de Cuadro "12"
35	49	47	45	37	131	43	41			42	44	130	46	40	48	36

MORON — SAN FERNANDO

(SOLO CIRCULAN SABADO Y DOMINGO)

CUADRO 14

LEASE HACIA ABAJO	ESTACIONES	Kms.	LEASE HACIA ARRIBA
Mixto No. 135			Mixto No. 134
P.M.			P.M.
4.00	S. ..... MORON ..... Ll.	162	5.40
4.25	Ll. ..... SAN FERNANDO ..... S.	8	5.15
P.M.			P.M.

VELASCO — CUNAGUA

CUADRO 15

LEASE HACIA ABAJO			ESTACIONES	Kms.	LEASE HACIA ARRIBA		
Mixto Nº 53	Mixto Nº 51	Vapor Nº 133			Mixto Nº 50	Vapor Nº 132	Mixto Nº 52
P.M.	P.M.	A.M.			A.M.	A.M.	P.M.
5.30	12.25	9.55	S. ..... VELASCO ..... Ll.	203	8.00	11.50	3.45
f 5.40	f 12.34	f 10.04	..... Laguna Larga	3	f 7.50	f 11.41	f 3.35
f -----	f -----	f -----	..... Avila	6	f -----	f -----	f -----
5.50	12.43	10.13	..... JAROCUNA	8	7.40	11.32	3.25
f -----	f -----	f -----	..... Betancourt Tercero	10	f -----	f -----	f -----
f -----	f -----	f -----	..... Betancourt Primero	14	f -----	f -----	f -----
6.15	1.00	10.30	Ll. ..... CUNAGUA ..... S.	19	7.15	11.15	3.00
P.M.	P.M.	A.M.			A.M.	A.M.	P.M.
53	51	133			50	132	52

WOODIN — FLORIDA

CUADRO 16

LEASE HACIA ABAJO			ESTACIONES	Kms.	LEASE HACIA ARRIBA		
Mixto Nº 59	Mixto Nº 57	Mixto Nº 55			Mixto Nº 54	Mixto Nº 56	Mixto Nº 58
P.M.	P.M.	A.M.			A.M.	A.M.	P.M.
7.30	2.00	7.05	S. ..... FLORIDA ..... Ll.	42	6.45	10.30	6.45
.....	.....	.....	(Enlace F. C. de Cuba Véase Cuadro 1)		.....	.....	.....
f 7.45	f 2.18	f 7.18	..... San Rafael	33	f 6.32	f 10.12	f 6.28
f -----	f -----	f -----	..... Arturo	31	f -----	f -----	f -----
f 7.55	f 2.30	f 7.28	..... La Quinta	28	f 6.22	f 10.02	f 6.18
f -----	f -----	f -----	..... Periú	25	f -----	f -----	f -----
f 8.05	f 2.50	f 7.37	..... Magarabomba	22	f 6.13	f 9.52	f 6.08
f -----	f -----	f -----	..... Peláez	19	f -----	f -----	f -----
8.27	3.20	7.50	..... SANTA ISABEL	15	6.00	9.37	5.45
f -----	f -----	f -----	..... Candito	13	f -----	f -----	f -----
f -----	f -----	f -----	..... Galis	12	f -----	f -----	f -----
f 8.35	f 3.28	f 7.59	..... Bárbara	11	f 5.51	f 9.29	f 5.24
f -----	f -----	f -----	..... Seoane	9	f -----	f -----	f -----
f 8.43	f 3.38	f 8.08	..... Cardoso	7	f 5.42	f 9.20	f 5.15
8.55	3.50	8.20	Ll. ..... WOODIN ..... S.	226	5.30	9.05	5.00
P.M.	P.M.	A.M.			A.M.	A.M.	P.M.
59	57	55			54	56	58

EXPLICACION DE LAS ABREVIATURAS
(REFERENCE MARKS)

(c)	Comidas.	(Meals).
(f)	Parada por señal.	(Flag stop).
(Ll)	Llegada.	(Arrives).
(S)	Salida.	(Leaves).

FERROCARRILES UNIDOS DE LA HABANA

CUADRO 17

Léase hacia abajo				Léase hacia arriba
No. 29	ESTACIONES		Ks.	No. 30
A.M.				P.M.
8.28	S. ..... CIENFUEGOS	Ll.	0	5.45
8.47	..... PALMIRA		13	5.26
8.53	..... CHEREPA		17	5.20
9.08	..... CAMARONES		25	5.03
9.16	..... CRUCES		30	4.55
9.49	..... RANCHUELO		44	4.24
10.26	Ll. ..... SANTA CLARA	S.	68	3.45
A.M.				P.M.

CUADRO 18

Léase hacia abajo				Léase hacia arriba	
Gas Car No. 011	Gas Car No. 09	ESTACIONES	Ks.	Gas Car No. 010	Gas Car No. 012
P.M.	.....			A.M.	.....
2.10	.....	S. ..... CAIBARIEN ..... Ll.	0	11.12	.....
2.42	.....	..... VIÑAS	13	10.46	.....
3.08	.....	..... ZULUETA	22	10.28	.....
3.36	A.M.	Ll. ..... PLACETAS ..... S.	36	9.58	P.M.
3.39	6.39	S. Ll.		9.45	4.20
3.49	6.49	Ll. ..... CUMBRE ..... S.	41	9.35	4.10
P.M.	A.M.			A.M.	P.M.

En caso de duda acerca de combinaciones de trenes, consulte al Jefe de Estación o al Conductor.

FERROCARRIL DE TUNAS, S. A.

CUADRO 19

Léase hacia abajo				Léase hacia arriba		
Motor No. 5	Vapor No. 3	Vapor No. 1	ESTACIONES	Ks.	Vapor No. 2	Vapor No. 4	Motor No. 6
P.M.	P.M.	A.M.			A.M.	P.M.	P.M.
9.00	4.00	8.35	S. .... LAS TUNAS ... Ll.	0	7.20	2.00	6.20
9.20	4.25	8.55	..... SANTA MARIA	9	7.00	1.40	6.02
9.42	4.57	9.16	..... MARIATEGUI	20	6.33	1.19	5.43
9.52	5.15	9.29	..... LA GUINEA	26	6.15	1.06	5.25
10.15	5.40	9.50	..... DUMAÑUECOS	37	5.50	12.45	5.00
10.30	6.00	10.05	Ll. CTRAL. MANATI S.	46	5.30	12.30	4.45
P.M.	6.10	10.15	S. Ll.		5.15	11.30	P.M.
	6.40	10.45	Ll. PUERTO MANATI S.	65	4.45	11.00	
	P.M.	A.M.			A.M.	A.M.	

CHAPARRA RAILROAD COMPANY

CUADRO 20

Léase hacia abajo				Léase hacia arriba	
No. 3	No. 1	ESTACIONES	Ks.	No. 2	No. 4
P.M.	A.M.			P.M.	A.M.
1.20	8.30	S. ..... VELASCO ..... Ll.	0	8.30	11.50
2.07	9.17	Ll. ..... CHAPARRA ..... S.	21	7.35	10.49
2.17	9.20	S. Ll.		7.30	10.39
2.34	9.37	Ll. ..... DELICIAS ..... S.	31	7.10	10.22
2.54	9.42	S. Ll.		6.58	10.08
3.06	9.54	Ll. .... SAN MANUEL .... S.	36	6.45	9.55
4.04	10.40	S. Ll.		5.55	9.00
4.45	11.15	Ll. ..... VAZQUEZ ..... S.	49	5.25	8.25
P.M.	11.25	S. Ll.		5.17	A.M.
.....	12.45	Ll. ..... LAS PARRAS ..... S.	79	4.10	.....
.....	1.00	S. Ll.		3.55	.....
.....	1.35	Ll. ..... SABANASO ..... S.	90	3.30	.....
	P.M.			P.M.	

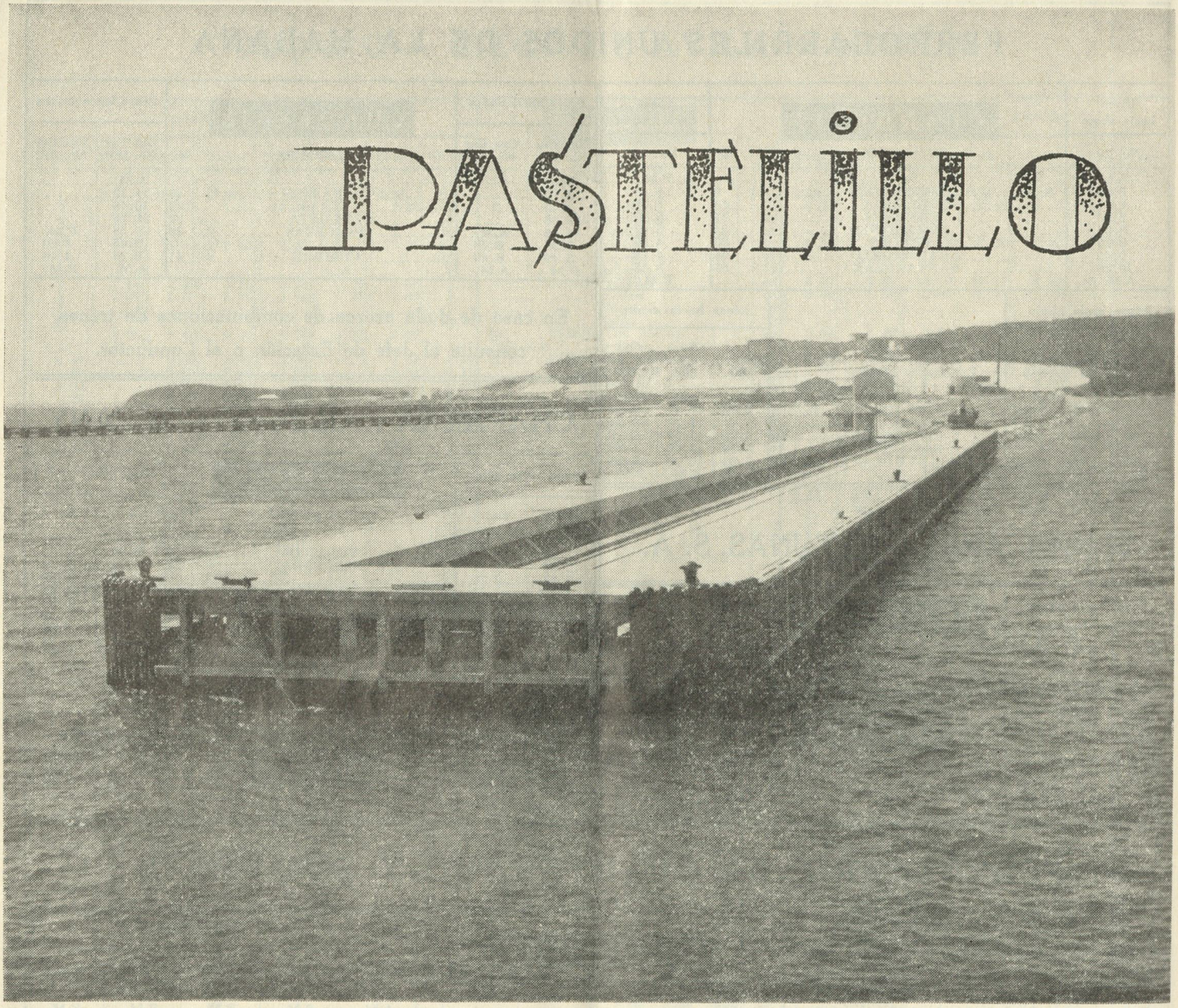
No. 3	No. 1	ESTACIONES	Ks.	No. 2	No. 4
P.M.	A.M.			P.M.	A.M.
3.14	9.56	S. ..... SAN MANUEL ..... Ll.	0	6.42	9.44
3.28	10.10	Ll. .... PUERTO PADRE .... S.	7	6.26	9.28
P.M.	A.M.			P.M.	A.M.

FERROCARRIL DE GUANTANAMO Y OCCIDENTE

CUADRO 21

LEASE HACIA ABAJO						LEASE HACIA ARRIBA				
Motor No. 9	Motor No. 7	Motor No. 5	Motor No. 3	Motor No. 1	ESTACIONES	Ks.	Motor No. 2	Motor No. 4	Motor No. 6	Motor No. 8	Motor No. 10
P.M.	P.M.	P.M.	A.M.	A.M.			A.M.	A.M.	P.M.	P.M.	P.M.
7.00	4.05	12.30	10.30	6.15	S. ..... SAN LUIS ..... Ll.	86	9.10	11.15	3.00	5.30	8.30
7.30	4.35	1.00	11.00	6.45	..... JUTINICU	70	8.41	10.46	2.31	5.01	8.01
7.46	4.51	1.15	11.15	7.00	..... SAN BENITO	63	8.28	10.33	2.18	4.50	7.49
7.56	5.01	1.26	11.26	7.11	..... EL MANGUITO	59	8.15	10.20	2.05	4.35	7.35
8.07	5.12	1.37	11.37	7.22	..... SABANILLA	52	8.04	10.09	1.54	4.24	7.24
8.17	5.22	1.49	11.47	7.32	..... OLIMPO	47	7.54	9.59	1.47	4.14	7.14
8.26	5.31	2.03	11.58	7.44	..... JURISDICCION	42	7.45	9.50	1.35	4.05	7.05
8.31	5.36	2.08	12.03	7.49	..... ALMEIDA	42	7.40	9.45	1.30	4.00	7.00
8.37	5.42	2.14	12.09	7.55	..... BELONA	38	7.34	9.39	1.24	3.54	6.54
8.46	5.51	2.24	12.18	8.04	..... ERMITA	34	7.27	9.32	1.17	3.47	6.47
8.57	6.02	2.38	12.29	8.15	..... MANANTIAL	29	7.19	9.24	1.09	3.39	6.39
9.09	6.14	2.58	12.44	8.29	..... CUNEIRA	25	7.05	9.10	12.55	3.25	6.25
9.22	6.27	3.11	12.57	8.41	..... CARRERA LARGA	20	6.53	8.58	12.43	3.13	6.13
9.30	6.35	3.20	1.05	8.50	..... SEMPRE	15	6.40	8.47	12.30	3.00	6.00
9.55	7.00	3.45	1.30	9.15	Ll. ..... GUANTANAMO ..... S.	0	6.10	8.15	12.00	2.30	5.30
P.M.	P.M.	P.M.	P.M.	A.M.			A.M.	A.M.	M.	P.M.	P.M.
A.M.		P.M.		A.M.			P.M.	A.M.		P.M.	
5.40		4.30		10.50	S. ..... GUANTANAMO ..... Ll.	31	6.30	7.50		1.05	
6.30		5.20		11.40	Ll. ..... BOQUERON ..... S.	0	5.40	7.00		12.15	
A.M.		P.M.		A.M.			P.M.	A.M.		P.M.	

PA$TELILLO



FERROCARRILES Consolidados, en su empeño de mejorar cada día sus servicios, ha resuelto un serio problema de transporte marítimo que los importadores y exportadores confrontaron por largo tiempo, debido a la falta de suficiente calado para buques de gran tonelaje, en la bahía de Nuevitas.

CONSOLIDATED Railroads of Cuba, in an effort to improve its service day by day, has solved a serious problem of maritime transportation confronted by importers and exporters for a long time, due to lack of sufficient draught for large ships in the Nuevitas bay.

Esta Empresa ha construído en la Terminal de Pastelillo un soberbio espigón de inquebrantable hormigón armado que, arrebatándole al mar sus dominios, se prolonga ventajosamente hasta el canal de entrada a Pastelillo y Puerto Tarafa, en una longitud de 458 pies por 55 pies de anchura, a cuyos costados pueden atracar barcos de 32 pies de calado. Para lograrlo fué necesario rellenar una porción de mar, cuya área es de 40,000 metros cuadrados.

Este espigón, señalado con el número 4, es el más grande de los muelles existentes en Pastelillo, y tiene su complemento para el tráfico de mercancías, en un Almacén Afianzado que ofrece al público las garantías a plenitud, y en seis almacenes para azúcar, con capacidad total de 490,000 sacos. Cuenta también este espigón con servicio de agua potable y de alumbrado eléctrico que facilita las labores nocturnas.

No sólo por su capacidad y profundidad, sino por su magnífica constitución y moderna estructura, que incluye dos mesetas laterales de 15 pies de ancho, a la altura del piso de los carros del ferrocarril, el espigón 4 brinda grandes facilidades para la manipulación de las mercancías, reduciéndola a lo indispensable en estas operaciones. Tales circunstancias nos permiten declarar que las notorias ventajas de este nuevo servicio portuario se extienden, no ya a Cuba y sus exportaciones, sino también a los países del mundo, cuyas mercancías, fácil y económicamente descargadas, pueden ser transportadas con rapidez desde el propio muelle hasta cualquier punto de la Isla, a través de una vasta red ferroviaria que cubre el territorio nacional de un extremo a otro. Además, el puerto de Nuevitas ha sido recientemente balizado y dotado de modernas boyas lumínicas y ciegas, lo que permite la mayor seguridad para la navegación.

Más informes pueden obtenerse del Agente General de Tráfico de esta Empresa, en Camagüey, Cuba.

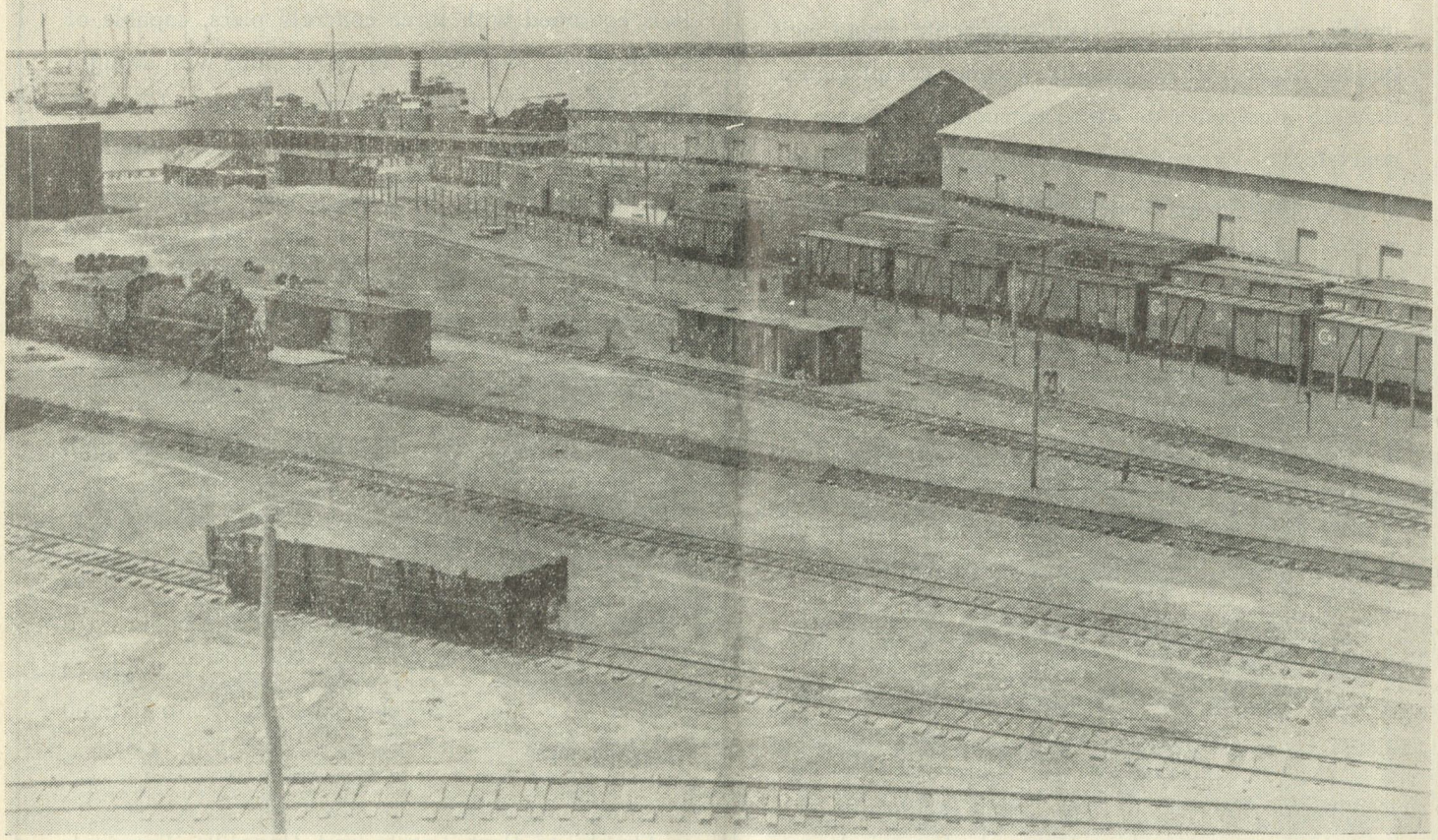
This Company has constructed at Pastelillo Terminal an excellent reinforced concrete pier 458 feet long and 55 feet wide which, taking space from the sea, advantageously reaches the entrance of the channel to Pastelillo and Port Tarafa, where ships with draught up to 32 feet can safely dock. To achieve this, it was necessary to refill a portion of the sea in an area of 40,000 square meters.

This pier, Nº 4, is the largest wharf at Pastelillo, having as complement a Bonded Warehouse for general merchandise, affording full warranty to the public, and six warehouses for sugar with a total capacity for 490,000 bags. This pier is also equipped with drinking water and electric lighting which facilitate night work.

Not only because of its capacity and draught, but for its magnificent construction and modern structure, including two side platforms 15 feet wide to the height of railroad car floors, pier Nº 4 affords great facilities for the handling of merchandise, reducing these operations to the indispensable. Such characteristics imply that the evident advantages of this new port service benefit not only Cuba and its exportations, but also other countries of the world, shipments from which easily and economically unloaded, can be rapidly transported from the pier to any point on the Island, through a vast net of railroads covering the national territory from one end to the other. Besides, the port of Nuevitas was recently buoyed and equipped with modern lighted and blind buoys affording absolute safety to navigation.

More information may be obtained from the General Traffic Agent of this Company, at Camagüey, Cuba.

ANTILLA



ALLA por el año 1905 el Ferrocarril de Cuba (en construcción) taladró el boscaje enmarañado de "Punta de Corojo" que, en la costa Norte se adentraba medrosa a la más grande bahía de Cuba —Nipe— y una de las mayores del mundo, para tender sus paralelas en aquel litoral que consideró de maravilloso porvenir en el desarrollo industrial del país.

BACK in 1905 The Cuba Railroad Company, then under construction, pierced the intricate forest of "Corojal" point which on the North coast spears into the largest Cuban bay, also one of the world largest —Nipe— in order to extend its lines to that sea shore which it considered would

En efecto, no se equivocó la Empresa, ya que hoy Antilla —nuevo y sugestivo nombre que la dió a la Terminal— es el puerto natural para las actividades de importación y exportación del Comercio y de la Industria en aquella zona oriental.

Al tráfico del mundo le interesa conocer que la Terminal de Antilla se halla dotada de tres espaciosos muelles a los cuales pueden atracar buques de hasta 24 pies de calado; que cuenta seis almacenes para azúcar, con capacidad total para 469,400 sacos de 325 libras, a más de un almacén afianzado para el tráfico de mercancías, y otro muelle para las operaciones de cabotaje. Tiene además, siete tanques para miel capaces de recibir en su seno 3.625,000 galones de ese producto. Dicho puerto está habilitado con una potente grúa debidamente acondicionada para el tráfico de carbón, minerales y otros productos similares que moviliza la industria.

El vertiginoso impulso que al progreso de la provincia oriental le imprimieron sus poderosos elementos ha sido de tan gigantesca trascendencia, que a pocos años de fundada la Terminal se fomentaron pueblos a lo largo del Ramal de Nipe, se levantaron colosales ingenios, se organizaron prósperas industrias, se promovió la explotación de minas de hierro, cromo y manganeso, y se colonizaron extensos territorios que permanecían improductivos, propendiendo estos factores decisivos al bienestar de la nación.

De la importancia de las exportaciones que se efectúan por esta Terminal hablan elocuentemente las siguientes cifras estadísticas que señalan las salidas registradas en el quinquenio de 1943 a 1947 durante el cual se despacharon 5.054,479 sacos de azúcar, 46.745,298 galones de miel y 46,725 toneladas de mineral.

be marvelously beneficial to the industrial development of the country. It was a wise idea, since today Antilla —new and suggestive name given this terminal— is the natural port for the commercial and industrial exportations and importations of that eastern territory of Cuba.

The world traffic should be interested in knowing that Antilla is equipped with 3 large wharves to which ships up to 24 ft. draught can dock: that it has 6 sugar warehouses with capacity to store 469,400 bags of sugar of 325 lbs. each and another wharf for coastwise traffic operations. It also has 7 molasses tanks capable of holding 3.625.000 gallons. A powerful crane also operates in this port duly suited to handle coal, ore and similar products.

The industrial progress brought about by this terminal in the Oriente province was such that a few years after construction new towns sprung up alongside the Nipe Branch together with large Sugar Mills, industries, mining of chrome and manganese ores and large areas at the time unproductive were settled, all to the welfare of the Nation.

As to the traffic through this terminal the statistics show that from 1943 to 1947 there were exported 5.054,479 bags of sugar, 46.745,298 gallons of molasses and 46,725 tons of ore.

Compre a TIEMPO

Cuando usted obtiene su pasaje con bastante anticipación a la salida de nuestros trenes, está ayudándonos a brindarle el buen servicio que nos interesa ofrecerle.

Muchas personas dejan la adquisición de sus boletines para última hora, sufriendo las molestias de esperar turno en largas filas y causando demoras en las salidas de los trenes, por nuestro deseo de atender las solicitudes de pasaje de todos.

SERVICIO DE CARGA

RAPIDEZ en el servicio y **SEGURIDAD** en la entrega de las mercancías, son las características principales de nuestros transportes de cargas.

Los Ferrocarriles Consolidados de Cuba ofrecen al público que los prefiere, tarifas razonables para el transporte de toda clase de mercancía, respaldado por la solvencia de una Empresa que goza de reconocido crédito.

TRENES RAPIDOS DE CARGA ENTRE

SANTIAGO Y LA HABANA

Y PUNTOS INTERMEDIOS

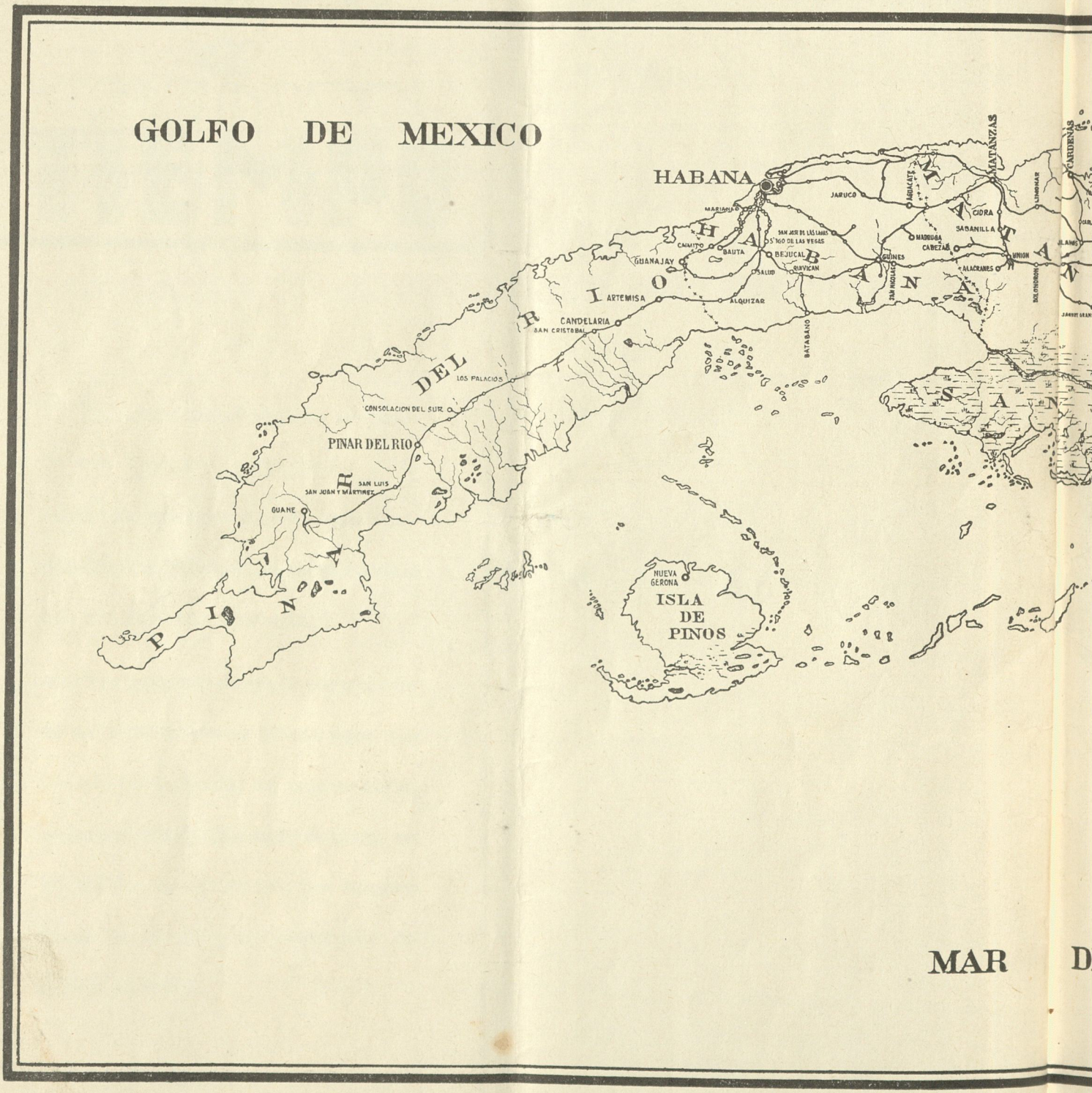
Salen de Santiago:
Martes y Sábados.
Llegan a La Habana:
Miércoles y Domingos.

Salen de La Habana:
Miércoles y Domingos.
Llegan a Santiago:
Lunes y Jueves.

CONFIENOS SUS CARGAS
EVITESE RIESGOS Y DEMORAS

Escríbanos, o solicite informes en cualquiera de nuestras estaciones, o en la oficina de Tráfico, en Camagüey, teléfono 2660.

Deseamos cooperar en la prosperidad de su negocio.


GOLFO DE MEXICO
HABANA
MARIANA
CAMITO
BAUTA
GUANAJAY
SAN JOSE DE LAS LAJAS
S'IGO DE LAS VEGAS
BEJUCAL
SALUD
RUVICAN
ALQUIZAR
ARTEMISA
CANDELARIA
SAN CRISTOBAL
LOS PALACIOS
CONSOLACION DEL SUR
PINAR DEL RIO
SAN LUIS
SAN JUAN Y MARTINEZ
GUANE
PINAR DEL RIO
HABANA
JARUCO
AGUACATE
MATANZAS
CIDRA
SABANILLA
MADRUGA
CABEZAS
GUINES
SAN NICOLAS
ALACRANES
UNION
BOLONDRON
LIMONAR
CARDENAS
JILANES
BATABANO
SAN
NUEVA GERONA
ISLA DE PINOS
MAR D

OCEANO ATLANTICO

FERROCARRILES CONSOLIDADOS DE CUBA

ISLA DE CUBA

RED DE FERROCARRILES Y CONEXIONES CON OTRAS EMPRESAS

ESCALA EN KILOMETROS

The Cuba Railroad Company

Ferrocarriles Del Norte De Cuba

DE LAS ANTILLAS

CAMAGÜEY, CUBA, OCTUBRE DE 1936.
PEDRO VIRGILI — DELINEANTE.

Cuando usted

escoja

LA CUBANA

podrá comprobar las notorias ventajas que justifican esa amplia preferencia que le dispensa el público que viaja por carretera.

El día que los haya mejores,

LA CUBANA los tendrá.

OMNIBUS CONSOLIDADOS DE CUBA

Oficinas Generales: calle 6 No. 54, Sorribes.

Teléfono 2656 — Santiago de Cuba.

EXPRESOS DE CUBA S. A.

UNA entidad responsable, al servicio de todos. Efectúa el transporte rápido y seguro de mercancías y valores por los trenes de pasajeros.

Se hace cargo del cobro de facturas, (C.A.E.), letras, giros, recibos, etc.

Recoge y entrega bultos a domicilio en las principales ciudades desde Santa Clara hasta Santiago de Cuba. Cuenta con departamentos aduanales en La Habana, Nuevitas y Santiago de Cuba, y con 137 oficinas para la atención inmediata de los asuntos que se le confíen.

OFICINAS PRINCIPALES

H A B A N A

Edificio Bacardí 509 — Teléfono A-4141

C A M A G ü E Y

Altos de la Estación del F. C.

Teléfonos:	Administración	3930
	Despacho y recogida de bultos ..	2497
	Entregas	2480

Walfrido Cabrera,
Administrador General

Hotel Casa Granda

frente al

PARQUE CÉSPEDES

SANTIAGO de CUBA

R. & L.H.S. COLLECTION